2008 Ohio State University Combined Research and Extension Plan of Work

I. Plan Overview

1. Brief Summary about Plan Of Work

Our nation is facing a dramatic transformation as the United States moves to an economy driven by knowledge and technology - through both the creation of new industries, as well as the application of technology to traditional industries. OARDC and OSU Extension continue to focus on traditional areas where need exists while moving the extension and research programs into this new economy. Both are accomplished by leveraging federal and state base funding through competitive processes and the utilization of stakeholder input in the initial planning phase for programs, as well as scientific peer review, and stakeholder review of outputs and impacts. This “Knowledge Economy” as this new paradigm is being called, is increasingly less dependent on making and growing things and more dependent on ideas and innovation. Knowledge has replaced raw materials and physical labor as the source of value, wealth, and economic prosperity. Our programs are positioning its agricultural bioscience (AgBioscience) /biotechnology foci within knowledge-based industry clusters. Advances in AgBiosciences have shifted agriculture’s foci beyond food and fiber production, alone, toward goals of also improving public health, social well-being, and the environment. Collectively the organization is playing a new and different role in delivering nutritional, pharmaceutical, and bio-based value-added products; in providing sound stewardship of resources; and in supporting rural communities.A more comprehensive view of the value chain is now driving the research and extension agenda. In addition, globalization, trade liberalization, consumer preferences, public concern about food safety and the environment, and changes in the relationship between agriculture and rural communities have altered the context in which OARDC and OSU Extension's program is being conducted. Emerging areas such as biotechnology, genomics, and ecosystem science have also transformed the practices and products of agriculture. New institutional arrangements known as the AgBioscience Innovation Grants (ABIG), a component of OARDC’s Research Enhancement Competitive Grants Program (SEEDS), and Ohio BioProducts Innovation Center (OBIC) are transformational approaches in which OARDC and OSU Extension are leaders. OARDC, OSU Extension, and the College of Food, Agricultural, and Environmental Sciences have joined with agricultural partners in a statewide visioning effort that resulted in the publication of Ohio’s Agricultural Roadmap (2005) under the sponsorship of the Ohio Farm Bureau Federation. In this document, OARDC's role is defined as providing the science behind the state’s AgBioResouces initiative. The emphasis is on reducing risk, adding value to products, and strengthening Ohio’s competitiveness, while enhancing the quality of and quantity for citizens’ lives, as environmental and natural resources are protected.While focusing on this new economy, OARDC and OSU Extension recognize that all future gains are based in great part on its existing strengths and past achievements. OARDC, OSU Extension, and their stakeholders, for example, lead an excellent and long-standing corn and soybean breeding and crop improvement program. Such programs will continue due to their economic importance. Thus, threats such as soybean rust must be addressed through aggressive research and extension education programs. As the corn and soybean sectors continue to expand to include biobased products, including biofuels, the economic benefit to Ohio and the region's economy and improvements to individuals' and groups' lives will continue to grow. For Ohio to continue to add value to existing and new crops, and to grow the new economies, OARDC and OSU Extension will continue to explore new stakeholder-based options and issues. In order to address OARDC's stakeholder-based needs, the organization leads ten Planned Programs around 42 Knowledge Areas, with OSU Extension's support. Likewise, OSU Extension leads 25 Planned Programs with OARDC's support. The FTEs shown in this Plan of Work are based on programmatic assessments, and may not reflect actual FTEs expended.

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	243.0	0.0	72.0	0.0
2009	235.0	0.0	68.4	0.0
2010	228.0	0.0	65.0	0.0
2011	215.0	0.0	61.7	0.0
2012	209.0	0.0	58.7	0.0

II. Merit Review Process

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

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

2. Brief Explanation

OARDC and OSU Extension utilize various advisory committees at differing levels commensurate with the review and input required. Small internal competitive grants are peer reviewed by an internal panel of OARDC faculty and administrators representing all academic departments within the College. Other larger competitive grants are reviewed by panels of OARDC faculty and administrators and leading stakeholders who have expertise in the area of the award, e.g. agbioscience grants. When needed, faculty from outside the College are used a reviewers. Combined panels of academics and non- academics are being used more extensively as OARDC and OSU Extension seek to move research into the marketplace more quickly to respond to the new economic realities of the global economy. All OARDC and OSU Extension publications are either blind peer-reviewed or peer reviewed/juried before publications either in print or via electronic media.OSU Extension develops long range program plans through a process involving Extension personnel from throughout the system, input of lay leaders in communities, incorporating data about Ohio's population, and through collaboration with other agencies, institutions and organizations.Each of the four program areas conducts long range strategic planning to prioritize programming. Specialists from academic disciplines provide insight from research trends while county Extension personnel provide insight from local communities. Systematic prioritization processes, such as Delphi, are used. Program area personnel work together to identify key issues that cut across disciplines. Special task forces or teams then collaborate to identify priority program efforts to address these issues. Funding is then allocated to support program priorities. Programmatic resources such as personnel or materials reflect the program priorities. In addition, these priorities direct from what sources grant funds are sought.Once strategic plans are in place, there is continual review of plans to include the ability to be responsive to unanticipated issues. The system provides flexibility for Educators to address these issues. In situations where grant monies are obtained, staff with specific, short-term employment contracts are hired to assist in meeting priority needs.Educator specialization is a way for the system to provide subject matter expertise close to local communities. Educators determine a subject matter specialization that relates to needs in their geographical area of the state. They receive additional training to remain on the cutting edge of their field. They are encouraged to work with other educators in their region to address local needs in a timely manner. In addition, educators are linked to state specialists in the same discipline to enable the rapid dissemination of new information or the development of appropriate programming to address critical needs.

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?

OARDC and OSU Extension rely on a layered approach to identifying critical issues. First strategic plans within the institution, which include stakeholder input, have identified the long term critical issues related to our joint mission and state, national and international needs. Faculty and staff have been hired within those areas. The College as a whole relies on a layered approach to identify stakeholders. First each academic unit has subgroups of stakeholders based on needs for their research and extension programs. These units are also charged with continuing to identify new and emerging needs and associated stakeholder groups. OARDC and OSU Extension both have support councils as advisory committees as well as county, regional, and statewide groups with whom they liaison for input and guidance. The Vice President for Agriculture also has a variety of advisory committees as well as interactions with major support and commodity/processing/distribution groups such as the Ohio Farm Bureau and Soybean Council.

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

Under-served and under- represented needs are first identified either by: (a) an overt request for research data or extension publications and /or programs such as a request to aid in enhancing the supply of fresh goat meat for a new immigrant populations; (b) a latent need identified by faculty and staff who work with these populations such as the effectiveness in terms of social stability, economic stability, and preparation for career advancement of daycare provided by grandparents of a rural single working parent; (c) from the literature; (d) a combination of a, b, and c. Based on the needs identified, the institution responds

based on its academic capacity to address the need, and resources available. Priority of the need in relation to other needs of the under-represented and under-served must be assessed internally. OARDC is developing a variety of research agreements with some of the 1890 Universities in order to enhance its research effectiveness and to better understand the types of research needed by minority populations that have been extensively served by 1890 programs. Likewise OARDC is growing a relationship with a processor of ethnic foods in central Ohio as a means of better servicing the need for ethnic foods. A senior administrator of that group will be requested to serve on OARDC's advisory committee and does serve on OSU Extension's advisory committee. OARDC and OSU Extension have sought to build linkages with a number of under-served groups such as the Somali community through a fresh goat meat initiative, the Amish through multiple community -based programs, and now is providing a number of publications in Spanish. One of our websites now has a Spanish language section. New windows of opportunity continue to open and will be serviced with culturally- relevant products and programs.

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

Programs will describe their expected outcomes as the result of research and extension, in terms of new or more commodities and their availability, enhanced efficiencies and effectiveness in processing, economic gains, environmental enhancements or surrogate measures for when the environmental impacts may take decades to manifest itself, social gains, food and environmental security programs that are institutionalized, and other manifestations that are needed within our stakeholders' domain.

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

OSU Extension and OARDC have limited resources and depend heavily on leveraging their base federal funding to attract state and competitive funds from extramural sources. Continued and enhanced focus on assessing stakeholder needs while assessing the institution's capabilities within mission to meet those needs using base funding, extramural funds, or a combination of both is the first step for program effectiveness. Efficiencies are also gained by predetermining where scarce resources are to be targeted and what impacts are expected based on the inputs allocated.

IV. Stakeholder Input

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

- Survey of the general public
- Survey of traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to selected individuals from general public
- Survey specifically with non-traditional individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to traditional stakeholder individuals
- Survey specifically with non-traditional groups
- Other (focus groups, public information booths at local gatherings,)
- Survey of traditional stakeholder groups
- Survey of selected individuals from the general public
- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups

Brief explanation.

The Ohio Agricultural Research and Development Center, OSU Extension and most academic departments have external advisory boards that meet 2-3 times a year to discuss current programs and provide input for future direction. All county Extension offices are expected to have an overall advisory committee as well as focused committees providing input for program planning, implementation and evaluation. Every two years, OSU Extension and OARDC involve stakeholders in meeting with state legislators to discuss programmatic priorities and budgetary needs to insure that we are focusing on critical needs of Ohioans.In 2004 and 2005 respectively, OARDC and OSU Extension commissioned Battelle, a private research and development firm, to conduct studies of the economic and social impact of our programs. The Battelle study team interviewed hundreds of stakeholders about the effectiveness of our research and Extension programs. The recommendations from these two reviews will guide how OARDC and Extension collaborate and reinforced that identified priority efforts are based on 21st Century needs of Ohio citizens. AS a result of the Battelle projects, OARDC and Extension jointly received new funding for competitive grants in the areas of : Youth-Our Future:4-H Youth Development, Ag Bioscience, Research Enhancement Competitive Grants Program, ATECH- Food and Agricultural Technology Commercialization and Economic Development Program, and funding to support two agricultural research

stations.In addition to the Battelle studies, each program area within OSU Extension conducted strategic plans to identify statewide priority programs. The process involved educators meeting with local advisory committees, reviewing data about demographic, economic and social trends in Ohio, and prioritization processes. As a result, each program area has focused teams composed of campus and center specialists as well as county educators who will develop curriculum and evaluation strategies for statewide programs. In many cases, these teams have identified specific target audiences from whom they regularly involve in evaluating programs and educational materials and engage in planning. Some of the program teams include members from external organizations (statewide agencies, organizations, commodity groups) who are appropriate partners to enhance program outreach and delivery.OSU Extension Administration also identified several issues of critical interest to Ohioans based upon existing information. These “themes” are the focus for interdisciplinary and multidisciplinary programs and we are offering competitive funding for new programmatic initiatives and partnerships. County Extension Advisory Committees as well as the State Extension Advisory Committee have been engaged in reviewing the themes and prioritizing them as they relate to local communities.

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

- Open Listening Sessions
- Needs Assessments
- Use Advisory Committees
- Other (one on one interactions with existing and new stakeholders)
- Use External Focus Groups
- Use Surveys
- Use Internal Focus Groups

Brief explanation.

The institution utilizes faculty and staff, and associates from support organizations and political leaders to help identify individuals and groups with whom we should be interacting. As new contacts are made, they are asked as to others who need to be included. Formal needs assessments and targeted surveys, as well as an annual statewide telephone survey, help to identify individuals, groups, issues, and needs. One on one sessions at the state fair, local fairs, special event such as our BiOhio, and active participation by faculty and staff in community group processes and business/professional meetings expand the institution's clientele list and knowledge of needs. These contacts are logged and maintained in the College's Unified Reporting System. Local committee members are identified by the Extension personnel in that county. They are expected to have a constitution and bylaws that identify the makeup of the committee. The membership of committees is reviewed during annual on-site and self study diversity reviews to insure that involvement is sought from a representative group of local citizens. Educators are encouraged to reach out to new and underserved target audiences to identify specific needs to be addressed. This occurs at the campus level as well. For example, in Horticulture and Crop Sciences, a faculty member had her graduate assistant have conducted extensive needs assessments with Hispanic workers in the horticultural industry. Resulting programs have addressed both professional development needs and family issues impacting these workers. More educational materials are being written and programs taught in Spanish.Several statewide program teams, such as the Agronomic Crops team conduct program evaluation and needs assessment directly with users of their web based resources to determine what information they need during the growing season and how they want to receive it to maximize use. Program evaluations have determined that the information delivered in a timely manner from the Crop Observation Reporting Network (CORN) resulted in a savings of $11.3 million in pesticide use.OSU Extension has added a market research position to the Program Development and Evaluation unit to conduct research with potential target audiences and to coach teams of educators, specialists and researchers in using sound market research to design and delivery programs. The new hire will begin June 5, 2006.

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 traditional Stakeholder individuals
- Survey of selected individuals from the general public
- Survey of traditional Stakeholder groups
- Meeting specifically with non-traditional groups
- Meeting with invited selected individuals from the general public
- Meeting with traditional Stakeholder individuals
- Meeting specifically with non-traditional individuals
- Other (focus group interviews, unobtrusive observation, qualitative dat)
- Survey specifically with non-traditional groups
- Meeting with traditional Stakeholder groups
- Survey specifically with non-traditional individuals
- Survey of the general public

Brief explanation

Business management practices, culture of organization

3. A statement of how the input will be considered

- Redirect Extension Programs
- Other (Business management practices, culture of organization)
- In the Action Plans
- In the Budget Process
- In the Staff Hiring Process
- To Identify Emerging Issues
- Redirect Research Programs
- To Set Priorities

Brief explanation.

OARDC and OSU Extension have positioned their institution as one that is customer centered. The institution advances both basic and applied research and builds and tests advance models for extension programming while meeting their clients' immediate needs. Client needs and their input are critical in the state level budget process and the Plan of Work for federal base funding in that meeting client needs is key to fulfilling the land grant mission and demonstrating that inputs will support programs that fulfill society's needs and contributes to national well-being. State, federal, and extramural supporters need to see constituency benefits in order to justify funding decisions. It is the field level interactions and research that identify the majority of emerging issues.While strong theoretical academic insight is critical, food, agriculture and environmental issues manifest themselves in field research and in our clients' daily work and social lives. Clients are true partners with faculty and staff in identifying emerging issues. Issues and needs originating from producers, processors/manufacturers, distributors, and consumers have and will continue to redirect both extension and research programs. It is such issues that provide the scientists with the study questions. Once answered, the response is framed for the clients and other interested parties. The response includes intervention to effect change and assessment of impact. These have and will continue to influence faculty and staff hiring, shifts in priorities and resource allocation, and strategic/ action planning. Likewise stakeholder input has and continues to influence how our College positions itself in the marketplace and conducts business. Stakeholder input has transformed the corporate culture in that as a public institution, it is imperative for society to see our organization reflecting their aspirations.
Input is considered at many levels of the organization. The Administrative Cabinet of OSU Extension reviews input from surveys and strategic planning processes to determine funding and staffing needs. The State Extension Advisory Committee meets 3-4 times a year and provides input on programmatic needs and proposed priorities. Cooperative Extension administrators (Director, Associate Director) and others with statewide program leadership responsibility have initiated a departmental accountability process with all campus units receiving Extension funding. This process involves meetings to discuss shared priorities, surveys of internal and external stakeholders about their satisfaction with the content and expertise delivered from that unit, and review of documented impacts. This process is directly linked to annual funding for the campus departments.Locally, Extension Advisory Committees and other programmatic committees assist educators in prioritizing programs annually. They review information about local needs, capacity of Extension to deliver programs and guide the overall local programmatic vision.

V. Planned Program Table of Content

27	Nutrition Education and Behavior (Extension)
28	Ohio 4-H Teen Leadership (Extension)
29	Ohio Dairy Health Management Certificate Program (Extension)
30	Pesticide Education Program (Extension)
31	Plant Systems-OARDC Led
32	Preparing Communities for the Knowledge Economy (Extension)
33	Soil, Water and Air Systems-OARDC Led
34	Sustainable Agriculture (Extension)
35	Volunteer Education & Training (Extension)
36	Youth Food Producing Animal Quality Assurance (Extension)

V(A). Planned Program (Summary)

1. Name of the Planned Program

Advancing Community Tourism (Extension)

2. Brief summary about Planned Program

Tourism is a viable economic development strategy in many communities. Within the State of Ohio, most tourism promotion takes place through countywide convention and visitors bureaus. Statewide promotion is coordinated by the Ohio Division of Travel and Tourism. Due to the lack of statewide funding; however, a few private tourism attractions drive the market because of their ability to spend dollars for advertising and promotion. At the same time, an increasing number of domestic and international travelers are seeking destinations which offer nature-based and heritage experiences. Attractions offering these experiences are seldom able to market appropriately due to budget limitations, many are non-profit attractions, and many are under-funded. Tourism contributes direct dollars within a community, creates jobs, generates tax revenue at the state and local levels, builds community, increases civic involvement, and is a contributor to individual, family and community pride. Tourism also can shape the image of a community or region. Sustainable tourism is cognizant of the interconnectedness of land use, food systems, capacity building, and sustainable communities.This plan will help residents, business owners, tourism officials and policymakers to: • Acquire a basic understanding of sustainable tourism as a viable economic development strategy. • Recognize sustainable tourism as an aspect of community building (strategies could include employing asset development and civic involvement to help engage community groups, local leaders, interested individuals, etc.). • Acquire new skills, knowledge and behavior because of Extension tourism development programming. • Connect tourism officials and businesses with other parts of the community, such as agriculture, nature, heritage, culinary, and cultural. • Recognize ways to help build enrichment through enhanced interpretation and “hands-on”activities into community tourism. • Recognize potential, problems, and profits in producing the community tourism product. • Build creative economies by advancing community tourism. • Contribute toward a coordinated effort to promote and enhance the Great Lakes • Sustain and enhance the geographical and historical character of various places, supporting the integrity and uniqueness of communities • Encourage communities to embrace Ohio’s state and national scenic byways as effective tourism development and resource protection strategies • Encourage and promote environmentally-friendly business practices among the tourism industry •Partner with the Ohio State University Extension Direct Marketing Team to enhance both tourism and marketing efforts particularly in the area of agriculture.

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

134	10%	Outdoor Recreation
604	25%	Marketing and Distribution Practices
605	30%	Natural Resource and Environmental Economics
607	10%	Consumer Economics
608	20%	Community Resource Planning and Development
805	5%	Community Institutions, Health, and Social Services

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

1. Situation and priorities

To help Ohio communities, residents, policy makers and stakeholders need: [1] Awareness of tourism as an economic development strategy [2] Awareness of sectors of tourism and profiles of tourists [3] Relationships established with local, regional, state and national tourism organizations and state and federal scenic byways [4] An Extension office recognized and utilized as a tourism development resource locally and regionally, working in tandem with destination marketing organizations [5] Increased quality and quantity of tourism attractions, events and souvenir and gift product; tourism asset and inventory development [6] An Extension staff that will work with tourism businesses and destination marketing organizations to help develop local strategic action tourism plans in concert with community strategic plans and with regional tourism plansA study conducted in 16 southern Ohio counties in 2003 identified tourism as an underdeveloped component of economic development in this region and an area of educational programming that communities wanted to further develop. A 2003 OSU Extension study of Ohio Byways concluded the majority of Ohio residents are unfamiliar with Ohio's Scenic Byways. The results also show that residents are interested in learning more about the byways, and are willing to change travel patterns and spend more money in order to take advantage of the amenities the byways offer, if they have information detailing what those specific amenities are.Tourism is a seldom-recognized component of a community's economic development plan yet data demonstrating the positive economic impact of tourism on Ohio is published biannually by the Ohio Department of Development's Division of Travel and Tourism.Extension works with many regional tourism organizations including Ohio's Appalachian Country, Lake Erie Coastal Ohio (LECO) Trail, and others. Extension educators have serve on the governing boards of these organizations, helping to develop policy, promote educational opportunities and facilitate strategic planning processes. Extension has helped these organizations gain the knowledge and skills to better address the growing economic needs within tourism for the communities they serve. Extension educators serve in leadership capacities for various state and national tourism organizations and committees, e.g. President of the Ohio Travel Association.Extension supports community assessments and regional strategic planning. For example, LECO, Inc. formed in 2002. A 24-member board oversees activities. LECO is funded, in part, by OSU Sea Grant, OSU Extension, and the visitor's bureaus along Lake Erie (Greater Cleveland, Greater Toledo, and those in Ashtabula, Lake, Lorain, Erie, and Ottawa counties.) After meeting with over 800 stakeholders, a corridor management plan was developed. To "keep on the right track," the LECO board conducted a strategic planning session in December 2005. Prioritized action steps were identified that support the organization's strategic plan and byway corridor management plan. In October 2005, the LECO Trail was designated a national scenic byway ("America's Byways®") by the Federal Highway Administration.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

There has been a noticeable increase in interest and program activity among OSU Extension personnel for tourism-related programming. The OSU South District's multi-phased 16-County Community Assessment report indicates that survey participants identified tourism as a high priority community development strategy to be implemented in their counties. There is a need to educate both external and internal clientele about tourism development. Existing organizations involved in tourism are focused on the promotion and marketing aspects of tourism, but there are many more sectors and aspects of tourism development that must be considered when establishing a sustainable tourism "industry." Educating about tourism can be accomplished at the local level by County Extension personnel (using materials and expertise of the Extension Tourism Team and other resources) because of their experience and respect for working with local residents in the communities. We need to move from "sightseeing" to "tourism" which means that people are actually spending money for services, events, products, etc., within the communities when they visit. Extension team members can facilitate the coordination of tourism activities at multiple levels, providing training materials and expertise and promoting the benefits of developing a sustainable tourism economy.

2. Ultimate goal(s) of this Program

[1] Improve the local, state, and regional economies through tourism as an economic development strategy [2] Improve quality of life by educating and advocating for the preservation and enhancement of our natural, historical and cultural resources.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	6.5	0.0	0.0	0.0
2009	7.0	0.0	0.0	0.0
2010	7.0	0.0	0.0	0.0
2011	7.5	0.0	0.0	0.0
2012	8.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Conduct Advancing Community Tourism Conferences across the state.• Continue and enhance The Spectrum e-newsletter for Extension audiences and expand to external readers.• Continue Info@coastalohio.com monthly e-newsletter to approximately 650 external readers.• Revise existing Tourism Trails Fact Sheets, identify and develop additional fact sheet topics.• Develop program modules/curriculum, market programs, teaching teams and presentations, for use by Extension Tourism team and other Extension educators (i.e. Nature based tourism, Hospitality training, Heritage based tourism).• Continue representation/participation and involvement with local, regional, state, and national tourism organizations, e. g. OAC, Ohio Byways Alliance, National Scenic Byways Program, Great Lakes North America, Ohio Travel Association, Ohio Tourism Roundtable.• Educate Extension personnel and external audiences about cooperatives, networks, and alliances as a tool for tourism based businesses and efforts including using tourism as an economic development strategy.• Assist communities in assessing their readiness for tourism including the development of an asset inventory.• Offer educational sessions in hospitality development and customer service for internal and external audiences.• Provide tourism organization support through strategic action planning, feasibility studies, reaction panels, etc.• Link tourism suppliers to natural, cultural , culinary and historical attractions to enhance economic impact.• Continue development of web site showcasing the intrinsic features of a region, as well as resource for stakeholders in creating the resource-based tourism product.• Create new tourism products by linking existing and emerging sites featuring our intrinsic features into maps, brochures, itineraries, etc.• Implement strategies from corridor management plans and community plans, as well as byway-wide marketing plans.• By late-2008, update existing corridor management plans by soliciting additional stakeholder input on future directions.

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

Extension	
Direct Methods	**Indirect Methods**
• Group Discussion • Other 1 (One-on-one Consultation) • Other 2 (Speakers Bureau) • Education Class • Workshop	• Public Service Announcement • Other 2 (Newspaper) • Newsletters • Other 1 (Brochures and Tour Itineraries) • Web sites

3. Description of targeted audience

Internal – Extension Educators and other Extension staff; other related teams and OSU people External – 1. Persons involved with local and regional destination marketing organizations, tourism initiatives, and tourism-related businesses; 2. Farmers and farm organizations and landowners considering agri-tourism and other direct marketing opportunities; 3. Community leaders; and public and elected officials; 4. Regional and state economic development professionals interested in tourism as an economic development strategy; 5. Local, district and state resource managers of natural areas, state parks, historical sites, etc., including those affiliated directly with ODNR, Ohio Historical Society and related organizations; 6. Crafters, artisans, small business operators, gift and museum shop operators, and tourism-related entrepreneurs; 7. Persons affiliated with or contemplating developing new tourism experiences, events, or souvenir and gift products embracing the region’s intrinsic qualities; 8. National

Scenic Byway program, key; 9, Statewide tourism-related organizations and divisions, such as the Ohio Travel Association, Ohio Restaurant Association, Ohio Hotel and Lodging Association, Ohio Division of Travel and Tourism, etc.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	1700	450000	100	200
2009	1900	500000	150	250
2010	2100	550000	200	300
2011	2300	600000	200	300
2012	2500	700000	200	300

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- # of fact sheets developed

  2008 : 4 **2009 :** 6 **2010 :** 8 **2011 :** 10 **2012 :** 12

- # invited presentations

  2008 : 8 **2009 :** 10 **2010 :** 12 **2011 :** 14 **2012 :** 16

- # of times Tourism Teaching modules utilized, audience reached

  2008 : 10 **2009 :** 15 **2010 :** 20 **2011 :** 25 **2012 :** 25

- # of attendees at Advancing Community Tourism Conferences

  2008 : 75 **2009 :** 100 **2010 :** 125 **2011 :** 150 **2012 :** 175

- # Print and radio media spots/ articles

2008 : 8 **2009 :** 11 **2010 :** 14 **2011 :** 17 **2012 :** 18

- # of Tourism/Direct Marketing team members

2008 : 12 **2009 :** 14 **2010 :** 16 **2011 :** 18 **2012 :** 20

- # of members called upon as resource professionals

2008 : 5 **2009 :** 6 **2010 :** 7 **2011 :** 8 **2012 :** 10

- # dollars directly awarded for tourism projects

2008 : 45000 **2009 :** 50000 **2010 :** 55000 **2011 :** 60000 **2012 :** 80000

- # Extension personnel involved in tourism projects/educational development

2008 : 7 **2009 :** 9 **2010 :** 11 **2011 :** 13 **2012 :** 15

- # contacts reached through regional e-newsletters distributed x # annual issues distributed

2008 : 7800 **2009 :** 8000 **2010 :** 8200 **2011 :** 8400 **2012 :** 9000

- # new travel itineraries developed

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

- # travel inquiries/web site visitors about Extension-led byway efforts

2008 : 450000 **2009 :** 500000 **2010 :** 550000 **2011 :** 600000 **2012 :** 700000

V(I). State Defined Outcome

1. Outcome Target

Local leaders and businesses perceive tourism as a viable economic development strategy for their community. Achieved through – Educational sessions/workshops (Advancing Community Tourism, presentations), educational materials (Tourism Trails, written, web, etc.), community asset inventory development, strategic planning. Measured by – survey, interview, policy development/implementation, direct support, use of Extension materials, direct contact with Extension professionals as resources

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 75 **2009 :** 100 **2010 :** 125 **2011 :** 150 **2012 :** 200

3. Associated Knowledge Area(s)

- 134 - Outdoor Recreation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

Community building, pride and image developed, quality of life improved, increased civic involvement demonstrated across socio-economic lines. Achieved through - Educational sessions/workshops (Advancing Community Tourism, customer service/hospitality presentations), educational materials (Tourism Trails, written, web, etc.), community asset inventory development, strategic planning. Measured by – survey of changes in practice, community awards, community project completion, measured community change in perception.

2. Outcome Type : Change in Action Outcome Measure

2008 : 20	**2009 :** 25	**2010 :** 30	**2011 :** 35	**2012 :** 40

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development
- 805 - Community Institutions, Health, and Social Services

1. Outcome Target

Increased community economic vitality demonstrated. Achieved through - Educational sessions/workshops (Advancing Community Tourism, customer service/hospitality presentations), educational materials (Tourism Trails, written, web, etc.), community asset inventory development, strategic planning, development of standardized measurement of impact, outreach to potential visitors, development of materials to be used by destination marketing organizations to promote the region. Measured by - direct and indirect visitor spending, jobs created, local and state tax revenue generated, payroll expenditures

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 605 - Natural Resource and Environmental Economics
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

Community and grassroots efforts to protect and conserve local and regional natural areas, historic sites, and cultural features are successful. Achieved through – Educational materials and workshops (grant-writing, importance of intrinsic features), cooperative groups (such as lighthouses, gardens, etc. with similar needs to consolidate purchasing and efforts), regional plans for enhancing the intrinsic features of communities, regular communications (thru newsletters, web site) to provide funding sources and preservation/conservation assistance. Measured by – number of support requests received by Extension Team members for funding efforts and/or preservation/conservation projects, acreage preserved, number of projects restored or under process, amount of grant funding/investment in historic preservation and natural areas conservation.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 134 - Outdoor Recreation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

Residents and nonresidents view Extension-led byway regions as destinations. Achieved through – byway and wayfinding signage development and installation; design standards and distribution of regional byway signage logos; local, regional and national media stories placed; new products created to enhance the visitor experience. Measured by - Adoption of byway logos in local tourism promotional materials, observation, comments by local officials, number of requests for information, and/or surveys of byway visitors

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Case Study
- After Only (post program)
- Other (Qualitative, anecdotal, particip)
- Retrospective (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population
- On-Site
- Observation
- Mail
- Sampling
- Telephone
- Structured
- Case Study

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural, Environmental, and Development Economics-OARDC Led

2. Brief summary about Planned Program

The Agricultural, Environmental, and Development Economics Planned Program is central in supporting OARDC and OSU Extension's range of planned programs and in meeting the needs of our stakeholders. This program contributes to both basic and applied understandings within our home College's four-element paradigm-production efficiency, economic viability through value added, social acceptably of our contributions, and environmental compatibility of products and practices emanating from our planned programs. Stakeholder demand for knowledge regarding production economics, management strategies, and associated business related information is high as would be expected in a state with an 80 billion dollar agriculture sector. Without a sound research and extension program to inform production, business management, and other financial aspects, this 80 billion dollar industry would be at risk. Understanding of market economics, because of both traditional market forces and the new global economy, are more critical than ever as producers, processors, and distributors factor in the multiple forces that govern the business risks they take and the decisions they make. Strong stakeholder communication has provided those conducting research and extension in this program area a sound understanding of stakeholder needs. The food and fiber industry demands a robust natural resource base and a sustained flow of environmental services. Understanding the multiple economic factors that govern the wise use and sustainability of these resources and services is addressed under this program. From carbon trading to the economics of river restoration, information generated in this area of the planned program has a high demand statewide, nationally, and internationally. The new world economy has added emphasis to this program's long history of international trade and development research. Ohio has both strong export and import markets for agriculture products, thus the need to allocate resources to advance the understanding of and practices within international efforts. Generating sound applied knowledge, and providing our stakeholders the best science based information available, require that science to be rooted in strong theory and methodology. To that end this program devotes a portion of its effort to advancing theoretical understandings and improved research methodologies. Advances in areas such as experimental economics are supporting research that helps reduce risk and improve profitability. Understanding the economics and social impacts of domestic programs and polices emanating from government is necessary to aid stakeholders in their decision making and to inform those who make policy as to impact or how to create polices that will yield the desired impact. Policy research ranges from environmental policy and land use to many aspects of price and income related policy. Economic inquiry, whether focused on profitability or on maintaining environmental services and associated amenity values, has a long history of providing the science behind the agriculture scene.

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

601	20%	Economics of Agricultural Production and Farm Management
602	20%	Business Management, Finance, and Taxation
603	15%	Market Economics
605	15%	Natural Resource and Environmental Economics
606	15%	International Trade and Development
610	15%	Domestic Policy Analysis

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

1. Situation and priorities

An effective and efficient agriculture and natural resource industry requires generation and application of economic theory and practice. Eleven million people in a relative small state, with high rates of agriculture sector activity, from production to processing to consumption, and major land use/ urban interface issues, yield complex social and business climates. As these are coupled with shifting market forces and new economies, the research output and associated impacts from this program are pivotal to success. How well the use of capital, human capital, and other resources are understood will greatly influence the long-term outcomes and impacts of all planned programs within this Plan of Work. Agriculture experiment stations and extension programs, especially in a state such as Ohio, have a heightened obligation to understand the multiple dimensions of economics to increase both quality and quantity of products and services that are important to the citizens of Ohio. Individuals, families, and communities, as well as businesses, related agencies, etc. involved in the food and fiber industry need the research information that is generated through this program. Programs regarding how people sustain their enterprises within the rural landscape, as well as how they learn, make decisions, and organize for these enterprises, both personal and corporate, are important from an applied perspective. Work in these knowledge areas is well and grounded theoretically with an extensive peer-reviewed literature base. The challenges lie in applying what is known to new and emerging issues and generating lines of research as needed to ensure that the citizens of Ohio's needs are met and that economies do not become an impediment to food and fiber production.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Understanding economics from both basic and applied perspective of how agriculture related human enterprises function and are maintained is important. Knowledge of economics is prerequisite to maintaining the human enterprise of agriculture. As the economic problems and needs within these stakeholder communities are addressed, the organization (OARDC and OSU Extension) becomes better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The economic issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, and reflect the more important issues, thus warranting allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food, fiber, and environmental services. •To a greater or lesser extent all citizens at some point in their life directly benefit from this area of inquiry. • These lines of inquiry will provide necessary information to inform human enterprises while protecting both the individual and corporate estate. •;This is an important area of study for society and will be utilized for enhanced decision-making by stakeholders and all citizens. •Research and education related to the multiple facets of economics are demanded by society to meet current and future needs. •These economic issues are manifested at some community level and those stakeholders who are most vested will become involved; others involvement will be limited yet they will reap the benefits of a sound basic and applied understanding of this research and extension program. •Base federal funding can be leveraged to support this planned program and to support available scientific staff to carry out the lines of inquiry noted within the knowledge areas for this program.

2. Ultimate goal(s) of this Program

Advance knowledge regarding economic choices related to protection, management, size/scale/growth factors, and overall profitability required to support Ohio's agriculture industry and meet stakeholder demand. Grow the understanding of agribusiness management and associated systems necessary to support Ohio's agriculture industry and meet stakeholder demand. Expand knowledge base of market economics, including but not limited to domestic trade, regulation, supply and demand, and market performance and analyses. Develop and expand applicable knowledge of natural resource and environmental economics commensurate with demand from multiple stakeholders for multiple outcomes, e.g. profit, preservation, esthetics. Explore and advance theoretical and applied economics of international trade and development as it relates to Ohio and national needs. Enhance understanding of domestic economic policy analysis in terms of government policy impact on agriculture and natural resources.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	7.5	0.0
2009	0.0	0.0	7.1	0.0
2010	0.0	0.0	6.8	0.0
2011	0.0	0.0	6.4	0.0
2012	0.0	0.0	6.1	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within the Food, Agricultural and Economics Development planned program are/will be: - online and in print research Â –based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public; - peer-reviewed journal articles; - non-commercialized techniques that are distributed to those in need without costs; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

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

3. Description of targeted audience

Targeted audiences are, but are not limited to: - specific individuals or groups who have expressed a need for economic findings related to some aspect of human capital that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - fellow academic units that depend on scientists in this program for support information and for the approaches/measures they generate; - fellow agencies or support organizations who will not only use the economic information but will also extend that information; - populations who have not requested the information but will likely benefit from that information; - other scientists and scientific groups; - political entities; - extension personnel; - students from junior high school to post doctorate studies; - news organizations; and - business and industrial 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	14	0	0
2009	14	0	0
2010	14	0	0
2011	14	0	0
2012	14	0	0

V(H). State Defined Outputs

1. Output Target

- Online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

  2008 :20 **2009 :**20 **2010 :** 20 **2011 :**25 **2012 :**25

- Peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

  2008 :14 **2009 :**14 **2010 :** 14 **2011 :**14 **2012 :**14

- Document non - commercialized techniques such as methods for tracking specific programs and who received those programs and what was the impact;

  2008 :1 **2009 :**1 **2010 :** 1 **2011 :**1 **2012 :**2

- Document number of consultations with recipients and in what areas;

  2008 :4 **2009 :**4 **2010 :** 5 **2011 :**6 **2012 :**6

- Track training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

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

- Develop and document planning meeting participation as to who (non-OARDC) participated at what level to help take research projects and practices to the next level; and

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

- Report number of graduate students completed, their research areas, and the positions of employment they hold.

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

V(I). State Defined Outcome

1. Outcome Target

New knowledge of production variations in markets that help producers, processors, and distributors have requisite information for enhanced decision making leading to decreased costs of inputs and an increase in profits/outputs.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics

1. Outcome Target

Advanced knowledge of how to market and manage quality attributes of commodities leading to demonstrated value added/ profits for producers, processors, and distributors, and reported satisfaction/needs attainment among consumers.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics

1. Outcome Target

Business management knowledge in targeted areas, e.g. risk management, weather insurance, impacts of land use shifts, grant management that are necessary for and result in increased profitability for stakeholders.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Research findings on novel programs such as pollution trading, carbon trading, conservation programs, cooperatives, etc. that results in enhanced profits, new sources of income, and/or prevention of loss of profits or loss of other resources, e.g. soil.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 610 - Domestic Policy Analysis

1. Outcome Target

Relational contracting theory and practice information that will contribute to reduction of risks, improving profits, and adding stability to the system that meet stated stakeholder needs.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 603 - Market Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Stakeholders will have the necessary models that will improve on the forecasting of risk, demand, and prices in various commodity sectors leading to enhanced decision making, increased profits, and reductions in uncertainly.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 610 - Domestic Policy Analysis

1. Outcome Target

Resultant management models that explain potential impacts of new/emerging trends e.g. trade agreements, bio-terrorism threats, and renewable fuels requirements, on specific agriculture sectors to the extent that negative impacts can be mitigated in a timely manner.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation

- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Market economies and efficiencies studies relating to factors such as pricing, finance, supply and demand, etc. ensuring that stakeholders are informed and their identified needs, e.g. lower operating costs, become more attainable.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Research finding on valuing environmental resources, e.g. wetlands, river restoration, and how it applies to stakeholder needs for demonstrated gains in profits, resources sustained, and/or actions mitigated.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

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

1. Outcome Target

Biocomplexity analysis to understand human-nature interactions at the landscape level that informs human enterprises, leading to demonstrated profitability, environmental protection, and/or improvements in quality of stakeholders' lives.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development

- 610 - Domestic Policy Analysis

1. Outcome Target

Increase profitability, reduce environmental impact, and/or improve quality of stakeholders' lives through bio-resource utilization efficiency and effectiveness research such as biomass to energy, nitrogen utilization, biocides, etc.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 610 - Domestic Policy Analysis

1. Outcome Target

Market and non-market valuation of environmental resources, e.g. steelhead trout fishing, open space, that have often lacked economic justification that meets client needs, and informs individual, group, and government decision making.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Advance knowledge of vertical markets in developing counties that when applied leads to documented increased trade with the US.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

Exchange rate, trade policy, and similar uncertainties research findings that lead to documented mitigation for stakeholders of certain negative effects of international trade.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 606 - International Trade and Development
- 610 - Domestic Policy Analysis

1. Outcome Target

New policy analysis research that informs policy development and fosters demonstrated gains for stakeholders in areas such as conservation programs, farmland protection, Farm Credit System resources, etc.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics
- 610 - Domestic Policy Analysis

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Shifts in economy impact all aspects of people,'s lives, psychologically, socially, business,–wise, and physically. Within this program area public monies, and the fluctuations in appropriations of such, have dramatic (both positive and negative) effect on human well being, as do levels of government regulations. Likewise public policy and the publics,' priorities and perceptions, including popular culture and trends/fads, are major external factors impacting this program. Priority of economics research for limited dollars, and the resulting competition, impact the extent that research can be carried out. Other factors such as economic conditions and needs of migrant populations entering the community and workforce, or new populations who have recently immigrated into the area, and are ill prepared to sustain themselves socially and monetarily, are impacts. To an extent though, it is these various external factors that are studied in relationship to economic theory that yields the valued research generated by the scientists in this program. Weather related factors impact the conditions and attributes that are being studied by creating uncertainty that cannot be controlled for. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

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

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders who are interested in the economics research and extension continues to provide strong bases for framing projects that have potential of adoption; with such approach outcomes are more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Scientists working in economics, because of their training, are much more focused on evaluation and social oriented research methodologies than are most faculty, thus the stakeholder input is substantial. Experiment Station reviewers, as do stakeholders with economics concerns, and those who provide extramural funding, all, are becoming more demanding as to chronicling impact.

2. Data Collection Methods

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

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders who are interested in the economics research and extension continues to provide strong bases for framing projects that have potential of adoption; with such approach outcomes are more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Scientists in this area, because of their training, are much more focused on evaluation and social oriented research methodologies than are most faculty, thus the stakeholder input is substantial.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agronomic Crop Management and Certified Crop Advisor (Extension)

2. Brief summary about Planned Program

Utilize the resources available to Ohio's Agronomic Crop Industry to help individuals maintain economically viable and environmentally compatible crop enterprises. Provide accurate and timely information, educational opportunities and conduct research projects addressing the needs of Ohio's agronomic crop industry.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

102	10%	Soil, Plant, Water, Nutrient Relationships
133	5%	Pollution Prevention and Mitigation
204	5%	Plant Product Quality and Utility (Preharvest)
205	20%	Plant Management Systems
211	15%	Insects, Mites, and Other Arthropods Affecting Plants
212	13%	Pathogens and Nematodes Affecting Plants
213	20%	Weeds Affecting Plants
402	7%	Engineering Systems and Equipment
601	5%	Economics of Agricultural Production and Farm Management

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

1. Situation and priorities

The Agronomic Industry in the State of Ohio has $1.9 billion dollars of cash receipts generated on 55,577 farms involving 8.4 million acres for corn, soybean and wheat production. These commodities provide feed stocks for livestock and manufacturing industries throughout the state giving economic and environmental impacts that directly or indirectly affect most Ohio citizens. Target audiences for direct involvement in these programs include farmers, agri-industry, and governmental agencies. The program includes specific areas of plant production including pest (weed, insect & disease) management, soil fertility, tillage/soil erosion, soil water/drainage, precision application of inputs and plant genetic evaluation. Economic impacts of production practices to farm profitability are evaluated in conjunction with the environmental consequences. Economic impacts include reduced input cost, efficiency in input utilization and identification of enhanced income crop sectors. Available research and experience include 26 Extension Educators and 22 Extension Specialist or Program Staff from Horticulture and Crop Science, Plant Pathology, Entomology, Food Agriculture and Biological Engineering, and School of Natural Resources.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Many of the programs conducted are long term and proven methods to reach audiences with research based information and education. Adapting the programs and information for use of technology (web and broadcast) to reach new audience and efficiently delivery the program while balanced with a high touch philosophy are the challenge. Focus group surveys of clientele have identified the following factors: Challenges identified included profitably fitting technology into production systems, economic challenges, and information overload. Profitably fitting technology into production is typified by examples such as Roundup Ready Technology, general GMO/conventional variety market demand shifts and seed treatments. Economic challenges included marketing, economies of scales issues and finding technology fits that have economic return. Agronomic information is readily available from many different resources. The difficulty is to know what information is meaningful to individual farming operations, plus issues related to reliability of information based on source. In addition, new pest problems such as soybean aphids were identified as new challenges. Information gathering for today's farm audience includes: Internet was the number one mentioned. Trade magazines were mentioned but seem to be of somewhat limited value Radio was mentioned by one participate due to the hours spent in a vehicle. Networking with other individuals from a variety of expertise areas Speed of obtaining an answer has changed. Answers are needed the same day or even within an hour, to meet grower demands. Technology was suggested as an important tool in making timely answers available. Non-biased information is a valued asset on farms. Research conducted on their farm or in close proximity had preference. Participants place a high value on research in general and like local research with similar soil types, environment, etc. Many do on-farm projects and think Extension could provide value to this activity in three areas: design and planning data analysis and interpretation. Technology (GPS, monitors and controllers) in data generation is another avenue for progress. Providing meaningful projects conducted in a timely manner is valued. Participants feel the least comfortable with identification of disease and insect problems plus they want to know thresholds that make economic sense. This is the greatest new skill or information they need on their farm. They suggest regional identification workshops and providing pictures in the CORN newsletter. The CORN newsletter, Pocket Field Guide, Weed Control Guide, and some use of the web site were mentioned as highly valued current products of the Team. Meetings received varied views, from being considered very good, to too much of the same old information. Farmers indicated less time and desire to go to meetings and workshops for a variety of reasons. Information brought to them through the web, e-mail or possibly localized workshops in season (during a three day rainy period) were most valued for the future.

2. Ultimate goal(s) of this Program

Improve nutrient utilization efficiency on the farm and reduce environmental impact from added nutrients. Help producers manage herbicide resistant weed and weed population shifts. Document weed population shifts and provide information to producers. Help producers better manage insect population shifts. Document insect population shifts and provide information to producers. Develop threshold information for management of insects in field crops. Help producers better manage disease. Document disease presence, yield loss potential and provide information to producers. Develop threshold information for management of diseases in field crops. Maximize profit on the farm and minimize the environmental impact of agronomic crop production in Ohio. Producers adapt technology which can have safety, efficiency and better input utilization impact on the farm.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	17.0	0.0	0.0	0.0
2009	17.0	0.0	0.0	0.0
2010	17.0	0.0	0.0	0.0
2011	17.0	0.0	0.0	0.0
2012	17.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Crop Observation and Recommendation Network Newsletter Crop Production Conference Certified Crop Advisor College FSR Certified Crop Advisor Conservation Tillage Conference Crop Profit Multiple Regional/Local Agronomy Meeting/Workshops Website Local/On-Farm Research Field Days Bulletins/Fact Sheets/Publications Work with Media and OSU Communications Technology Building relationships with commodity organizations and agencies Build relationships across other teams in OSU Extension. Computer training on technologies for agronomic applications Precision ag data management analysis and decision workshops Develop educational programs and tools to improve the efficiency of nitrogen utilization to improve farm economics and reduce environmental impact. Develop a user friendly manure nutrient credit spreadsheet for livestock and crop producers

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • Workshop • Education Class • Demonstrations • One-on-One Intervention • Other 1 (On-Farm Research)	• Other 1 (Radio Programs) • Other 2 (Webcast) • Web sites • Newsletters

3. Description of targeted audience

Grain Producers and cash forages of both commercial size and part-time Agriculture Industry- Fertilizer chemical retailers, Input company representatives, crop advisors Certified Crop Advisors Non-agronomic specialized educators Agency Soil and Water Conservation Districts, Natural Resources Conservation Service, Ohio Department of Agriculture and Environmental Protection Agency

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	5000	40000	0	1000
2009	5000	40000	0	1000
2010	5000	40000	0	1000
2011	5000	40000	0	1000
2012	5000	40000	0	1000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Crop Observation and Recommendation Network Newsletter to be published 40 times per year, and to be distributed to 5,000 farmers and professionals.

  2008 :40 **2009 :**40 **2010 :** 40 **2011 :**40 **2012 :**40

- One Crop Production Conference which provides updated training for ag industry and CCA reaching 200.

  2008 :200 **2009 :**200 **2010 :** 200 **2011 :**200 **2012 :**200

- One Certified Crop Advisor (CCA) College which provides updated training for ag industry and CCA reaching 140.

  2008 :120 **2009 :**120 **2010 :** 120 **2011 :**120 **2012 :**120

- One Farm Science Review (FSR) Certified Crop Advisor which provides updated training for ag industry and CCA reaching 35

  2008 :35 **2009 :**35 **2010 :** 35 **2011 :**35 **2012 :**35

- One FSR Conservation Tillage Conference which provides updated training for ag industry and CCA reaching 600.

  2008 :600 **2009 :**600 **2010 :** 600 **2011 :**600 **2012 :**600

- Multiple Regional/Local Agronomy Meeting totaling 40 which reaches 2500 people with agronomic information.

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

- Production and Issues Workshops totaling 15 reaching 600 people

2008 : 30 **2009 :** 50 **2010 :** 80 **2011 :** 100 **2012 :** 100

- Website which reaches an estimated 60,000 hits per year

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

- Local/On-Farm Research projects totaling 35 sites.

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

- Field Days totaling 5 location and reaching 500 people

2008 : 100 **2009 :** 100 **2010 :** 100 **2011 :** 100 **2012 :** 100

- Weed Control Guide for Ohio and Indiana 4000 distributed annually

2008 : 4000 **2009 :** 4000 **2010 :** 4000 **2011 :** 4000 **2012 :** 4000

- Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat and Alfalfa 1000 distributed annually.

2008 : 1000 **2009 :** 1000 **2010 :** 1000 **2011 :** 1000 **2012 :** 1000

- Field Crop Insects of Ohio 800 distributed annually

2008 : 800 **2009 :** 800 **2010 :** 800 **2011 :** 800 **2012 :** 800

- Corn, Soybean, Wheat and Alfalfa Field Guide 1000 distributed annually

2008 : 1000 **2009 :** 1000 **2010 :** 1000 **2011 :** 1000 **2012 :** 1000

- Corn Disease Management in Ohio 500 distributed annually

2008 : 500 **2009 :** 500 **2010 :** 500 **2011 :** 500 **2012 :** 500

- Profitable Soybean Disease Management in Ohio 500 distributed annually

2008 : 500 **2009 :** 500 **2010 :** 500 **2011 :** 500 **2012 :** 500

- Wheat Disease Management in Ohio 250 distributed annually

2008 : 250 **2009 :** 250 **2010 :** 250 **2011 :** 250 **2012 :** 250

- Seed Treatment for Ohio Agronomic Crops 150 distributed annually

2008 : 150 **2009 :** 150 **2010 :** 150 **2011 :** 150 **2012 :** 150

- Ohio Agronomy Guide 700 distributed annually

2008 : 700 **2009 :** 700 **2010 :** 700 **2011 :** 700 **2012 :** 700

V(I). State Defined Outcome

1. Outcome Target

Those who participate in technology workshops will improve efficiency of field activities by $15 per acre.

2. Outcome Type : Change in Action Outcome Measure

2008 : 15	**2009 :** 15	**2010 :** 15	**2011 :** 15	**2012 :** 15

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

1. Outcome Target

25% of meeting participants will indicate they will implement new management practices based on information received at the meetings.

2. Outcome Type : Change in Action Outcome Measure

2008 : 25	**2009 :** 25	**2010 :** 25	**2011 :** 25	**2012 :** 25

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 402 - Engineering Systems and Equipment
- 601 - Economics of Agricultural Production and Farm Management

1. Outcome Target

25% of Ohio's Corn acres will implement a nitrogen efficiency model for their farm.

2. Outcome Type : Change in Action Outcome Measure

2008 : 25	**2009 :** 25	**2010 :** 25	**2011 :** 25	**2012 :** 25

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems

1. Outcome Target

25% of crop production acres will implement weed resistance management strategies.

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
25	25	25	25	25

3. Associated Knowledge Area(s)

- 213 - Weeds Affecting Plants

1. Outcome Target

Utilization of appropriate IPM practices for disease and insect will occur on 15% of Ohio crop acres.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
15	15	15	15	15

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Observation
- Journals
- Structured
- Whole population
- Tests

Description

Use of audience response technology where audience members are given transponders that tally votes on questions presented through meetings.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Systems-OARDC Led

2. Brief summary about Planned Program

The food animal industry in Ohio is a key contributor to the food, agricultural, and environmental economy, and the largest economic sector in the state. The food animal industry continually grows. For example, per capita consumption of chicken and turkey has increased dramatically since the 1970s. Nationally, chicken consumption has increased from 40.3 pounds per person in 1970 to present day 82.5 pounds per person. Turkey consumption has risen from 8.1 pounds in 1970 to current consumption of 17.4 pounds person. Breeders are focused on maximizing growth with an emphasis on the breast muscle. Every percent improvement in breast muscle yield is worth $100 million to the U.S. turkey industry, and is worth over $300 million to the U.S. broiler industry. To inform the Animal Systems in this Plan of Work and to address the seven Knowledge Areas identified, OARDC is heavily invested in programs, facilities, and stakeholder networks at the local, state, regional and national levels. The program consists of multiple levels of research ranging from investigations at the genetic level to studying all aspects of food animal production, including aquaculture and new initiative such as goat meat production for a new immigrant population. Such program positions Ohio as a major contributor to both basic and applied animal sciences, and substantially contributes to the food security at national and global levels. OARDC scientist have provided leadership at all geographical levels, worldwide for the past half a century. Genetic research provides a foundation for the program with inquiries from the genome level through gene pool studies. Nutrition and reproduction are major areas of emphasis demanded by stakeholders and by the state of academic understanding of the food animal system. Emphasis is placed on pre-harvest programs to reduce risks to producers, processors, and consumers, and ensure high productivity of quality products. Producers, processors, and distributors in this program are well organized and rely heavily on OARDC for scientific information. Over the years they have been actively engaged in the process of research from needs identification to summative assessments of outcomes. OARDC research is widely disseminated by OSU Extension, ensuring that research is distributed in a timely manner that leads to planned outcomes within appropriate stakeholder groups.

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

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

301	20%	Reproductive Performance of Animals
302	20%	Nutrient Utilization in Animals
303	10%	Genetic Improvement of Animals
304	10%	Animal Genome
307	10%	Animal Management Systems
308	20%	Improved Animal Products (Before Harvest)
311	10%	Animal Diseases

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

1. Situation and priorities

Providing for the sustained and secure flow of food animals to producers, processors, distributors, and consumers and knowledge that their animal-based food system is informed by the best science available are expectations of OARDC. The science behind the system is not only critical for provision of food worldwide; it is also a major economic driver. OARDC addresses direct needs of all these constituency groups by interacting with them and understanding their needs. Scientists also address needs before they ever arrive in the state, i.e. studying potentially infectious animal diseases. Much of the interactions are with organized groups of producers, processors, distributors, and consumers. Consumer demand for products is often relayed through feedback fro other organized groups such as food distributors, e.g. demand for more tender and more marbled beef. Without a growing body of knowledge to create efficiencies and security in the animal based food systems, opportunities will be missed and society will not be well served. With over one hundred years of research history, a robust body of literature, and a well-developed network of clientele, supporters and companion agencies and organizations, including OSU Extension, OARDC is well positioned to continue to effect positive change in this planned program. Effective research requires a mixture of laboratory, animal enclosures, and on-farm research to maximize knowledge. Ohio is well invested in these throughout the state. Emerging threats now demand planning of more advanced facilities such as a biosecurity lab, particularly needed in the study infectious animal diseases.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Understanding the basic and applied science related to how animal systems are maintained and managed, and how food and the associated economy are maintained, meets society's overt and latent demands in this area. As we address problems and needs within our stakeholder communities, the organizations (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues, and warrant allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food and environmental services. •All citizens directly or indirectly benefit from a safe, secure, and plentiful animal based food system. •These lines of inquiry will provide necessary to inform human enterprises. •Research and education related to food animal systems is a demand by society needed to meet current and future needs.

2. Ultimate goal(s) of this Program

Animal production research will: - work with all agriculturally important animals in Ohio to enhance reproductive performance that are both effective and economically efficient in meeting commensurate demands of the industry and consumers. Nutrient utilization research will: - provide the necessary research to enhance nutrient utilization for the purpose of production efficiency, economic viability, competitiveness, and animal health within the industry and provide consumers with greater value and quality at reduced environmental costs. Genetic research, including genomics, will: - work with our stakeholders to better understand and provide the genetic improvement information, including work at the molecular level, that is in current demand, or that is emerging as a potential demand. Animal management research will: -focus on improving management systematics for multiple farm types including organics, and will include modeling, decision-making, and alternative management strategies. Preharvest research will: - address demand from stakeholders for information to aid in improving the quantity and quality of animal products in a cost effective, environmentally friend manner that is socially acceptable. Research related to animal protection will: - focus primarily on animal diseases, both present ones and those that have likelihood of impacting this geographic region, to ensure that society has a safe and secure animal based food supply and that human and animal heath, business enterprises, and environmental security are not compromised

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	12.8	0.0
2009	0.0	0.0	12.2	0.0
2010	0.0	0.0	11.6	0.0
2011	0.0	0.0	11.0	0.0
2012	0.0	0.0	10.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within this planned program are/will be: - online and in print research –based publications targeted to (a) specific stakeholder groups, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - commercialized techniques; - non-commericalized techniques that are distributed to those in need without costs (e.g. wetland construction techniques); - limited number of patents; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

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

3. Description of targeted audience

Targeted audiences are, but are not limited to: - specific individuals or groups who have expressed a need for food animal systems information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at a USDA office, NRCS, Ohio Department of Agriculture, or a county extension agent; - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. small or hobby farmers; - other scientists and scientific groups; - political entities; - extension personnel; - students for pre-school to post doctorate studies; - news organizations; and - business groups such as Farm Bureau or from commodity 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	18	0	0
2009	18	0	0
2010	18	0	0
2011	18	0	0
2012	18	0	0

V(H). State Defined Outputs

1. Output Target

- online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

  2008 :10 **2009 :**12 **2010 :** 12 **2011 :**12 **2012 :**13

- peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

  2008 :18 **2009 :**18 **2010 :** 18 **2011 :**18 **2012 :**18

- commercialized techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

- non - commercialized techniques will be tracked as to number of adoptions, and by whom;

  2008 :1 **2009 :**1 **2010 :** 1 **2011 :**1 **2012 :**2

- patents by number and who partnered/purchased/commercialized;

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

- consultations with recipients and in what areas;

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

- training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

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

- planning meeting participation as to who(non-OARDC) participated at what level to help take a research project to the next level.

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

- Number of graduate students graduated and professional positions held

2008 : 3 **2009 :** 6 **2010 :** 3 **2011 :** 6 **2012 :** 4

V(I). State Defined Outcome

1. Outcome Target

Improve reproduction efficiency and enhanced application of new technologies over the next five years to fully meet the competitive demands faced by OARDC's stakeholders in areas such as early maturation, estrus, fertility, and ovulation

2. Outcome Type : Change in Action Outcome Measure

2008 : 1 **2009 :** 1 **2010 :** 2 **2011 :** 1 **2012 :** 1

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

1. Outcome Target

Provide research finding within ten years that are needed to reverse the fertility decline in animal populations such as dairy

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 307 - Animal Management Systems

1. Outcome Target

Increase nutrition utilization for the purpose of increased growth and quality of products commensurate with consumer demand

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

1. Outcome Target

Improve nutritional utilization, performance, and efficiency to the point that savings will off-set increases in costs of animal food stocks

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

1. Outcome Target

Show incremental gains annually in dietary research to increase utilization of food stocks (e.g. via better understanding of protozoal ecology), increase bioavailability of nutrients including trace minerals, and protect animal and human health

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

1. Outcome Target

Meet the demand of fellow scientists and stakeholders within ten years for materials relating to genetics and breeding, including id of molecular markers for improved animal health and reproductively, and increased quality and quantity of products

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome

1. Outcome Target

Provide at minimum one new contribution annually to the body of literature that will positively food animal genetics, e.g. molecular techniques and materials to aid in identifying genetic codes of bacteria in that breaks down cellulose in cattle

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems

1. Outcome Target

Improve management for multiple animal farm types, including organics, that will produce higher yields for and lower costs to the producer and consumer and will allow the farmer to profit within a reasonable business plan

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

1. Outcome Target

Annually advance modeling, decision-making, & alternative strategies to provide greater flow of needed information to food animal farmers to ensure business stability, including forage based cattle and niche market demands

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

- 311 - Animal Diseases

1. Outcome Target

Advance preharvest research over five years to the extent that new technologies are being adopted and showing profitability in area such as improved muscle growth, quality of meat, tenderness, lower fat in dairy products, etc.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

1. Outcome Target

Animal disease researchers will continue to serve on first responder teams when stakeholders have an immediate disease problem

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 311 - Animal Diseases

1. Outcome Target

Animal disease researchers will provide the necessary research to inform producers in a timely manner how to protect against known and present diseases, e.g. bovine mastitis

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases

1. Outcome Target

Animal disease researchers will advance the research frontiers in emerging disease investigations to the extent that OARDC continues to serve as a center for excellence

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals

- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes, coupled with animal diseases that are often climate related, can impact outcomes. Public policy shifts, regulations, and shifts in demand will be impact outcomes. Human values and environmental sensitivities of the populace to animal production and processing are also external factors that effect outcomes. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provides a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ‘so what?’ Experiment Station reviews, as do stakeholders and those who provide extramural funding, are more demanding as to chronicling impact.

2. Data Collection Methods

- Sampling
- Unstructured
- Case Study
- Observation

Description

Data collection in this planned program tends to be unstructured feedback from stakeholders, peers, and administrators, rather than formal pencil and paper evaluation. In the area of community based programs, such as certified animal products development, joint OARDC and extension activities results in formal surveys that usually address adoption of processes rather than actual research findings per se. Observations with recorded biological, physical, and social data make up the bulk of data collection in this program. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Bio-based Non-Food Value Chains-OARDC Led

2. Brief summary about Planned Program

The United States has become one of the most prosperous nations in the world in great part because of its ability to utilize its natural resource base to build the economy as the nation expanded from east to west. As the nation grew, so did the quantity, quality, and efficiency of agricultural output, feeding the domestic population and then the world. Agriculture and natural resources continue to underpin national well-being. At the same time though, food and traditional fiber crops alone do not take full advantage of the economic and social good opportunities that are available to agriculture and natural resource stakeholders. To that end, OARDC and OSU Extension, and multiple partners, are exploring new opportunities for adding value to biobased products, beyond traditional food and fiber markets, through commercialization of new products. In great part these are demanded as a substitutes for certain petroleum based products due to the rising costs of such and the eventuality of declining supplies of crude oil. Two major thrust areas are now being advanced- -biobased fuels and biopolymer type products. Ohio's biomass, rich in agricultural, plant fiber, and food- processing wastes, is capable of producing at least 65 percent of Ohio's residential electricity needs. In an effort to harness the power of the state's abundant biomass and provide alternatives to record-high energy prices, OARDC is establishing a pioneering bio-energy research facility on its Wooster, Ohio campus. Funded by public and private monies, the facility's aim is to optimize different technologies, such as anaerobic digestion and fuel cells, for the biological conversion of biomass into scalable energy systems. The facility will also offer an industrial testing platform to verify the energy potential of various wastes from different industries. OARDC also informs ethanol development programs. Additionally, OARDC, OSU Extension, and their external partners have created the Ohio BioProducts Innovation Center (OBIC). OBIC will develop/identify bio-resource materials and chemical conversion technologies to generate industrial products such as lubricants and adhesives from raw materials grown in the state, including corn and soybeans. Combining development of unique germplasms (to be carried out within the Plant Systems Planned Program) with novel chemical-synthesis technologies, oils, carbohydrates, and proteins will produce specialty chemicals targeted for use in a range of bioproduct applications. Ultimately, OBIC's 'cell-to-sell' management plan links Ohio's research and commercial partners to focus academic research on market-based problems identified by business partners, which in turn lead to the commercialization of high-value industrial bioproducts and manufacturing solutions. Given that the global petrochemical industry exceeds $1.8 trillion annually, and biobased products will continue to fill the gaps in this market, as well as create new markets. Given demand by producers, industry and consumers, and the breadth of partnerships already established, biobased research is expected to be a major long-term research and outreach foci in Ohio and our organization.

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

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

●	511	100%	New and Improved Non-Food Products and Processes

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

1. Situation and priorities

Demand for alternative and value added uses for Ohio's renewable bio-based resources is strong. OARDC's role, in partnership with other research organization such as Battelle, is to inform the process. This line of research by agricultural experiment stations and companion extension programs are mandatory to meet domestic demand for new and innovative non-food products. Such research directly supports OARDC and OSU Extension's broader goals of production efficiency, economic viability, environmental stewardship, and social acceptability of technologies and products introduced. We addresses direct needs of all their constituency groups by regularly interacting with them and understanding their needs. Scientists working in biobased products have formed strong partnerships with industry to ensure that research informs development of commercialized products and processes that are in demand by some consumer group(s). Job growth is also most important. Without a growing body of knowledge in this area to create plentiful supply of new products, opportunities will be missed and society will not be well served. With a growing body of

literature, and a well-developed network of industrial partners, clientele, supporters, and companion agencies and organizations, including OSU Extension, OARDC is well positioned to continue to effect positive change in adding value to bio-based non-food products through a well-planned research program.

2. Scope of the Program

- In-State Research
- In-State Extension

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

1. Assumptions made for the Program

Bio-based product research is a client-oriented program designed to meet society's overt and latent needs for alternative products and processes. As we address problems and needs within our stakeholder communities, the organization (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via a growing body of scientific literature, reflect the more important issues in terms of priorities of stakeholders, and warrants allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of alternatives for some petroleum-based products. •All citizens directly benefit from a secure and plentiful supply of products and processes this program will generate. •The program is supported by an advanced research and extension program and is required for commercialized products to emerge. •These lines of inquiry are necessary to inform human enterprises. •Bio-based non-food research and extension education are demanded by society and required to meet current and future needs of society.

2. Ultimate goal(s) of this Program

Goals in this planned program are to participate in providing the biological, chemical, physical, engineering, and social research necessary build a system for new and improved non-food processes and products: - through the creation of partnership networks that involves all stakeholders at the appropriate point in the process necessary to make these research efforts true partnerships with fully vested partners. - to meet societies growing demand for alternatives to petroleum based products where demands, and economic and technological realities, warrant. - to meet yet undetermined needs of society as crude oil and natural gas supplies decline. - that effectively utilizes Ohio and the region"s plentiful supply of biomass, including waste steam materials, that has conversion potential. - that effectively utilizes agriculture's production capacity to produce plants that have the desired attributes required by new biobased industries for manufacturing alternative products.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	1.0	0.0
2009	0.0	0.0	0.9	0.0
2010	0.0	0.0	0.9	0.0
2011	0.0	0.0	0.8	0.0
2012	0.0	0.0	0.8	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within bio-based non-food planned program are/will be: - commercialized products and processes (primary focus); - number of patents; - planning meeting with advisory groups to communicate findings and plan new research; - online and in print research –based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; -

peer-reviewed journal articles; - non-commercialized techniques that are distributed to those in need without costs; - consultation services and meetings with stakeholders and supporters; and - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors.

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

Extension	
Direct Methods	**Indirect Methods**
• Workshop • Education Class • Demonstrations	• Newsletters

3. Description of targeted audience

Targeted audiences are, but are not limited to: - business and industry that have expressed a need for biobased product information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - other stakeholders, with particular focus on consumers; - fellow academic units that partner with program scientists to create systems and processes needed to support not only the research, but also the adoption of the research findings by industrial partners; - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. general public; - other scientists and scientific groups; - political entities; - extension personnel; - students from middle school to post doctorate studies; and - news organizations.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	2	0	0
2009	4	0	0
2010	6	0	0
2011	6	0	0
2012	6	0	0

V(H). State Defined Outputs

1. Output Target

- Commercialized products and processes (primary focus) to meet consumer needs and demands.

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

- Increase the number of patents in five years.

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

- Plan meeting with advisory groups to communicate findings and plan new research.

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

- Monitor and report online and in print research –based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public

  2008 :5 **2009 :**5 **2010 :** 7 **2011 :**10 **2012 :**10

- Produce peer-reviewed journal articles;

  2008 :2 **2009 :**4 **2010 :** 6 **2011 :**6 **2012 :**6

- Create non-commercialized techniques that are distributed to those in need.

  2008 :0 **2009 :**0 **2010 :** 1 **2011 :**2 **2012 :**1

- Provide consultation services and meetings with stakeholders and supporters.

  2008 :3 **2009 :**3 **2010 :** 4 **2011 :**5 **2012 :**5

- Facilitate delivering training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors

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

- Document the number of graduate students graduated and the professional positions they hold

  2008 :0 **2009 :**0 **2010 :** 1 **2011 :**2 **2012 :**2

V(I). State Defined Outcome

1. Outcome Target

Programs in this area will develop strategies to engage and include producers, industrial partners, and consumers groups over

a 5-year period resulting in effective leadership-oriented partnerships.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

The program will build scientist/stakeholder cores to guide/provide biological, chemical, physical, engineering, and social research necessary to create new and improved processes and products commensurate with demand.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

Annually the program will report, in conjunction with industrial partners, non-proprietary research gains made to the consuming public to garner interest in adoption of new products and processes when released.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

Maintain an ongoing needs assessment program to identify yet to be determined needs of society for bio-based products as crude oil and natural gas supplies decline, as well as assessing impacts from other external factors.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

By 2011, the program will contribute at least one alternative to a petroleum-based product or process that meets client needs with an acceptable point of purchase price.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

Support, though research, the building of biobased development that annually, beginning in 2011, utilizes Ohio and the region’s plentiful supply of biomass, including waste steam materials in such manner as to improve the economy.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

1. Outcome Target

Support, though research, the building of biobased development that annually, beginning in 2011, effectively utilizes agriculture's production capacity to produce plants that have the desired attributes for manufacturing.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Supply and cost of crude oil)

Description

Supply, costs, and demand for petroleum products, and shifting projections of world reserves of crude oil and natural gas, as well as U.S. access to these, are critical external factors. Availability of biobased raw products in Ohio, and regionally, and at what costs are external factors. Economic shifts such as cost of processing equipment or production costs, public policy shifts, regulations, and shifts in demand will be impact outcomes. Product trends/fades, advertising agendas, and public perceptions as to petroleum reserves are also external factors that effect outcomes. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

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

Description

Evaluation in this area, while following a pattern similar to other projects at OARDC, will be highly oriented to industrial partners and supporters. Formative and summative evaluation are/will be regularly palnned in that the goal is to as rapidly as feasible commercialize products to meet demand. Experiment station evaluation, per se, begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer-review of journal articles provide a more summative assessment. Pre-planning with stakeholders of research continues to provide strong bases for framing all projects; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies and meta analysis in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Program scientists employ extensive formative evaluation in product design and testing. Most of the analysis leads either faculty, peers, or the total research team to investigate outcomes and impacts by asking 'so what?' and 'was demand met at point of purchase?' Experiment Station reviews demand the chronicling impact.

2. Data Collection Methods

- Structured
- Unstructured
- Case Study
- Observation

Description

Data collection in this planned program involves both structured and unstructured input/feedback from stakeholders, support groups, peers, and administrators. The most significant point of data collection though will be gathering appropriate data for an analysis of the processes and scientific findings that led to product creation. It is here that case studies and meta analysis, as well as unstructured formative evaluation, will play the greatest role. Focus group studies, as well as participant observation, are employed. Consumer data at all levels of the program will be necessary in that products must meet customer needs. Observations and recording of relevant physical, chemical, biological, engineering, and social data are most important to evaluating process and product development. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Building Human Capital (Extension)

2. Brief summary about Planned Program

To provide locally focused, relevant and holistic programming, expertise and partnerships that will facilitate the development of human capital among Ohioans.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

802	95%	Human Development and Family Well-Being
806	5%	Youth Development

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

1. Situation and priorities

Intra-familial processes directly influence the educational attainment, marital stability, propensities to engage in more or less healthy lifestyle behaviors, and many other dimensions of everyday life. The nature, content and psychosocial tenor of these interactions have far-reaching consequences for the social, economic, and civic fabric of society. The family is the basic unit of society, yet social, economic and other changes have created challenges for Ohio's families. For example:• Ohio's early care and education industry only has the capacity to serve approximately 527,000 children at any one time; that's only 40% of all Ohio children with all parents in the labor force. When stable, high quality early care and education options are not available, employee retention, satisfaction, and productivity suffer. Additionally, poor quality early care and education result in decreased cognitive, language and social development, thus hindering children's readiness for school.• The lifetime probability of divorce or separation for those who do marry remains close to 50%, and the number of children impacted by divorce and out-of-wedlock birth remains high. Each year in Ohio, for every 100 marriages there are, on average, 54 divorces; 51% of these divorces involve parents with minor children, meaning that about 42,500 children are impacted by divorce annually. Additionally, one out of every three births in 2000 (34%) was to unmarried parents and 31% of Ohio's families are headed by a single parent.• Parents experience a host of pressures today not faced by previous generations. Single parent families, increased geographic mobility, decreased sources of extended family supports, combined with a culture that often emphasizes violence, materialism, and self-gratification all too frequently result in parental stress overload. According to Ohio's Department of Job and Family Services, in 2003, a total of 70,785 new reports of abuse, neglect, and maltreatment were made to Ohio's children services agencies. Of those reports, 31,539 were for neglect; 22,658 were for physical abuse; 12,030 were for sexual abuse; and 4,525 were for emotional maltreatment.Broadly, our focus will be on building human capital (knowledge, awareness, attitudes, skills, values, aspirations, and behaviors). The development, implementation, evaluation, and refinement of psycho-educational programming materials, processes, and interventions will not only provide a better understanding of family systems, family performance, and well-being, but also improve the understanding of the social, cognitive, emotional, and physical development of individuals and families over the lifespan. Specific foci to be addressed over the next five years include: divorcing and basic parent education; communication and relationship skills development among youth and adults; child care provider training; gerontology education; and youth development programming.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

A human ecological paradigm (cf. Bronfenbrenner) guides this effort. This theory seeks to understand and find connections among individuals and families in relation to their near, intermediate and far environments, while at the same time espousing key tenants for developing human and social capital. A year-long strategic planning process (that included literature reviews, analysis of primary and secondary data sources, Delphi survey techniques, and the involvement and incorporation of local stakeholder input via county FCS Advisory committees) guided the development of this overarching programming thrust. The values guiding are work include: helping people help themselves; education directed toward, and jointly determined by, participants; lifelong learning; providing accessible and reliable information; a collaborative spirit; and building upon the, assets and diversity of individuals, families, and communities. County-, Center-, and State-based programming personnel will provide leadership for planning, conducting, evaluating, and refining this effort.

2. Ultimate goal(s) of this Program

1. Divorcing and Basic Parent Education- Parents facilitate their children's positive development—emotionally, socially, and intellectually.2. Communication and Relationship Skills Development- Family and relationship dynamics are improved and more remain stable.3. Child Care Provider Training- Program quality increases and children enter school with foundational knowledge and skills that will promote school success.4. Gerontology Education- Individual, family and social well-being is increased in the later years.5. Youth Development- Youth build human and social capital that will facilitate future career and life success.being is increased in the later years.

V(E). Planned Program (Inputs)

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

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

V(F). Planned Program (Activity)

1. Activity for the Program

• The total number of workshops and educational sessions conducted • The total number of newsletters created • The total number of newsletters distributed • The total number of new curricula developed

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

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

3. Description of targeted audience

• parents of children ages birth to 18, including, but not limited to: teen, step, adoptive, foster, single, divorcing, incarcerated, fathers who may not have yet established paternity, and grandparents • youth aged 13 to 18 • adults in, or thinking about entering, intimate relationships • child care providers • older adults and those who care for them • social service professionals

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	15000	15000	10000	0
2009	15000	15000	10000	0
2010	15000	15000	10000	0
2011	15000	15000	10000	0
2012	15000	15000	10000	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Total number of participants in the program/project.

  2008 :45000 **2009 :**45000 **2010 :** 45000 **2011 :**45000 **2012 :**45000

- Total number of volunteers participating in the planning and implementation of the program (e.g., committee members, teachers/trainers, unpaid staff, etc.)

  2008 :400 **2009 :**400 **2010 :** 400 **2011 :**400 **2012 :**400

- Number of participants attending presentations and/or demonstrations.

  2008 :20000 **2009 :**20000 **2010 :** 20000 **2011 :**20000 **2012 :**20000

V(I). State Defined Outcome

1. Outcome Target

# of participants who learned new information from the program.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
22000	22000	22000	22000	22000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

1. Outcome Target

# of participants who plan to adopt one or more recommended practices as a result of the education program/session(s)

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
11000	11000	11000	11000	11000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

1. Outcome Target

# of participants who actually adopt one or more recommended practices as a result of this education program/session(s)

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
8000	8000	8000	8000	8000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Tests
- Mail
- Observation
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Building Sustainable Communities (Extension)

2. Brief summary about Planned Program

Our planned program thrust is four-fold: 1. Continue to offer and further improve current sustainable communities curriculum and programming, including: a. Regional Sustainability Roundtable b. Sustainable Community Visioning and Planning c. Sustainable Communities Index d. Agroecosystem Health Index Use results of these programs to conduct applied research into the effectiveness of sustainable community approaches. 2. Continue to research and propose new sustainable communities initiatives and programs with the purpose of piloting and offering new ways of assisting clientele in the pursuit of sustainable objectives. 3. Establish the OSU Extension Sustainable Development Center as a nationally recognized resource for research, programs, curriculum and leadership in the area of Sustainable community and economic development. Develop the multi-disciplinary strength of the Center and identify internal and external partnerships, collaborative relationships and resources that can help to move both Center and partner initiatives forward. 4. Develop a Sustainable Communities web presence that will provide resources, curriculum, research results, and programs available through OSU Extension's Sustainable Community's initiatives.

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

●	608	100%	Community Resource Planning and Development

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

1. Situation and priorities

Within Ohio there is a need for: education regarding sustainability, networks to support sustainability throughout communities and regions, the ability for communities to approach planning from a sustainable philosophy, and programs, initiatives, curriculum, research and service supporting the adoption of sustainable approaches by individuals, communities and regions. The International City Management Association (the professional and educational organization for chief appointed managers, administrators, and assistants in cities, towns, counties, and regional entities throughout the world) calls sustainability "the issue of our age" and urges member professionals to take leadership roles on this critical issue to preserve the long term quality of life for our community's residents into the future. Communities and regions in Ohio and throughout the nation are wrestling with the need to find resident's common ground in the face of divergent, and often conflicting, values and desires. Planning and development efforts are often stymied by an inability to reach a shared consensus of the future that balances the community's social, environmental and economic vision. While sustainable approaches appear to provide a more effective community planning and development process and more widely-adopted results, few communities in Ohio, and only a handful of communities throughout the nation, are using this concept. In Ohio, the first community to use a sustainable approach, developed and facilitated by OSU Extension, in their comprehensive planning was the City of Kent. This effort was very successful, receiving national and international recognition for its innovative approach to community planning. Since completion of the plan in 2005, Kent has already accomplished 66% of their goals. Reaching citizen consensus by initially balancing their social, environmental and economic goals for the community has resulted in Kent's ability to move the planning process forward to accomplishment in a shortened period of time. According to Sarah Low from the Center for the Study of Rural America at the Federal Reserve Bank of Kansas City, viewing economic and community development from a regional perspective must quickly becoming the answer to pressures from globalization being faced by local communities.. Moving from traditional community assets, i.e. cheap land and labor, to knowledge economy workforce skills, lifestyle amenities, access to capital and information, and innovative activity requires local areas to collaborate and network within regional clusters. In this way they can take advantage of the critical mass of resources available, and rural areas can benefit from urban markets present within in the rural-urban interface. The Regional Sustainability Roundtable is well-positioned to move this approach forward, creating networks among and between communities and leaders within the urban-rural interface and bringing the knowledge and approach of sustainability to the relationships that are forming

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

Programs and initiatives that apply the characteristics of sustainability to community and regional planning, visioning, networking and goal setting are superior to those that do not for the following reasons: 1. By balancing social, environmental and economic considerations they reduce conflict and promote mutual understanding and consensus building, 2. By fully engaging citizens in guidance and discussion they reduce divisiveness and build involvement and buy-in, 3. Long term views help to formulate a positive vision that builds on regional and community assets rather than focusing on problems, 4. The use of multi-dimensional indicators (Sustainable Community Index, etc.) at the community and regional level to measure progress toward reaching sustainable goals is effective in gauging the effectiveness of efforts, and 5. Creating regional networks that coalesce around issues of sustainability provide more effective collaborations and resource sharing that networks existing solely at the community level. Community and economic development that occurs at the regional level is the new reality of development given global pressures on individual communities. These assumptions are borne out of experience, applied research and observation as a result of program piloting and implementation over the past five years.

2. Ultimate goal(s) of this Program

Leaders and residents of communities and regions throughout the state will understand and develop a mindset of sustainability, incorporating in their networking, planning and action the balance of and linkage between social, environmental and economic considerations. Sustainable approaches to community and regional planning, economic and community development, and citizen engagement will be well accepted and used by local leaders and CD/ED and planning professionals in Ohio as the most effective approach to long term community planning and development. Communities and regions in Ohio will become healthier and more economically viable with engaged citizens and an attractive quality of life. Communities within the rural-urban interface will take advantage of their assets and proximity to urban markets to the betterment and balance of their local and regional economies, environmental diversity and social fabric.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	10.0	0.0	0.0	0.0
2009	15.0	0.0	0.0	0.0
2010	20.0	0.0	0.0	0.0
2011	25.0	0.0	0.0	0.0
2012	25.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Conduct regional workshops • Conduct statewide conferences • Build and facilitate regional sustainability networks • Develop curriculum • Partner and collaborate with other organizations/entities/colleges in the University • Provide training in sustainable planning • Develop curriculum and educational materials that can be offered through the web • Develop additional products • Promote sustainability through the media • Conduct and share applied research • Publish results

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

Extension	
Direct Methods	**Indirect Methods**
• Workshop • Group Discussion • Education Class • Other 1 (Direct Involvement) • Demonstrations	• Other 2 (News releases) • Web sites • Public Service Announcement • Other 1 (Journal Articles) • Newsletters

3. Description of targeted audience

• Local elected and appointed officials • Planning, Community Development & Economic Development Professionals • Business leaders • Community residents • Existing and potential high-value entrepreneurs • Community leaders • Regional organizations • Agricultural community • Youth ages 13-17 • Environmental interests • Extension colleagues

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	400	1500	150	300
2009	600	2500	300	500
2010	900	3500	350	550
2011	1500	5000	400	700
2012	2000	10000	450	1000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	2	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Establishment of web site, number of hits

2008 :1500 **2009 :**2500 **2010 :** 5000 **2011 :**10000 **2012 :**10000

- Number of persons engaged in regional sustainability workshops

2008 :100 **2009 :**125 **2010 :** 125 **2011 :**175 **2012 :**200

- Number of regional workshops and meetings held

2008 :4 **2009 :**8 **2010 :** 10 **2011 :**10 **2012 :**10

- Number of statewide conferences

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

- Number of programs developed

2008 :5 **2009 :**8 **2010 :** 10 **2011 :**11 **2012 :**12

- Number of programs conducted; number of participants

2008 :5 **2009 :**8 **2010 :** 10 **2011 :**11 **2012 :**12

- Number of curriculum modules created, and delivered

2008 :3 **2009 :**5 **2010 :** 10 **2011 :**12 **2012 :**15

- Number of applied research studies conducted; number published

2008 :1 **2009 :**2 **2010 :** 2 **2011 :**2 **2012 :**2

V(I). State Defined Outcome

1. Outcome Target

# of participants having a greater knowledge of sustainable development

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :1000 **2009 :** 6000 **2010 :** 6500 **2011 :**7000 **2012 :** 7500

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Increase in awareness of OSU Extension as a source for sustainable development information

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :5 **2009 :** 6 **2010 :** 7 **2011 :**10 **2012 :** 15

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

# of communities taking a sustainable approach to planning and development

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
5	6	7	10	15

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

# of regional sustainable development networks operating effectively

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
1	2	4	5	5

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Increase in the number of communities using the Sustainable Development Center web site for information

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
35	40	40	45	50

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Adoption and implementation of sustainable programs and policies by local, regional and state entities

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
10	15	17	20	20

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Increase in number of communities achieving balanced sustainable development goals including a cleaner environment, healthier economy, and improved quality of life

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
5	7	10	15	20

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population
- Mail
- On-Site
- Structured
- Case Study
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Business & Economic Development (Extension)

2. Brief summary about Planned Program

The business and economic development program will address the following facets: e-Commerce, Retention and Expansion, Industrial Attraction, Industrial Site Development, Economic Development Tax Incentives (EZ, CRA), Commercial Activity Tax, Revolving Loan Funds, Community Development Block Grants, Small Business Management, Marketing, Economic Impact Analysis, Retail Market Analysis, and Wage and Benefit Studies.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

602	15%	Business Management, Finance, and Taxation
603	5%	Market Economics
604	10%	Marketing and Distribution Practices
606	5%	International Trade and Development
608	60%	Community Resource Planning and Development
609	5%	Economic Theory and Methods

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

1. Situation and priorities

Communities have begun to realize that they ultimately bear responsibility for improving their economic conditions. Quite often, community leaders are not experienced in economic development. For example, when presented with potential economic development opportunities, community decision-makers often require information that is not readily available nor are these local officials able to gather such information required to make informed economic development decisions. Or, local development officials may require direct assistance in applying for funding to facilitate investment on the part of a new or expanding industry. Or, local officials may require local information in order to conceptualize local economic development strategies, for example, or how to offer needed support to existing small business owners/operators. Technical assistance and educational programming in the area of business and economic development targeted to local community officials as well as business owners and entrepreneurs enables communities to capitalize on economic development opportunities.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

Due to the complexity of community development (public administration), communities rely on technical assistance in an attempt to meet community needs. Local officials supplement their knowledge with expertise from consultants, for example, and business

owners/operators rely on local development officials to help them grow their business. When Extension can provide technical expertise to local officials and business owners/operators directly, economic conditions can be better addressed.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to improve economies. This is done specifically by developing new industrial/commercial sites, creating/maintaining a healthy small business community, improving infrastructure, enhancing entrepreneurial capabilities, increasing public revenue, promoting quality of life.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	8.0	0.0	0.0	0.0
2009	9.0	0.0	0.0	0.0
2010	9.0	0.0	0.0	0.0
2011	10.0	0.0	0.0	0.0
2012	10.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

This program will involve one-on-one and group teaching using workshops, public meetings, and consultation. Written materials will supplement in-person teaching. Partnerships with state government and state association development officials as well as other local or regional development officials and organizations will be developed and maintained.

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

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

3. Description of targeted audience

Development officials (chambers, CIC, downtown/main street, etc), Elected Officials (county commissioners, twp trustees), Business owners and leaders, Entrepreneurs, Community members, Extension professionals

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	2000	90000	200	40000
2009	2000	90000	200	40000
2010	2000	90000	200	40000
2011	2000	90000	200	40000
2012	2000	90000	200	40000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	1	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Output targets measured in terms of number of: Workshop and educational program participants, workshops conducted, partnerships created, press releases published, reports created, studies performed, block grants awarded, tax incentives granted.

2008 :1023 **2009 :**1089 **2010 :** 1156 **2011 :**1224 **2012 :**1293

V(I). State Defined Outcome

1. Outcome Target

Identify issues and develop plan of work for community officials engaged in economic development activities

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :348 **2009 :** 358 **2010 :** 369 **2011 :**380 **2012 :** 391

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Identify sales leakages & surpluses

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
38	48	58	68	78

3. Associated Knowledge Area(s)

- 603 - Market Economics

1. Outcome Target

Determine economic development strategies

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
164	170	176	183	191

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Determine the economic impact of a proposed new or existing economic sector within a community or region (eg plant closing, or new industrial investment)

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
38	48	58	68	78

3. Associated Knowledge Area(s)

- 603 - Market Economics

1. Outcome Target

Improve relationships & develop linkages among community officials, residents, developers, state and regional development officials, etc

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
145	155	165	175	185

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Diversify retail economies & strengthen retail base

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
145	155	165	175	185

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods

1. Outcome Target

Develop economic clusters & improve regional economies

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
145	155	165	175	185

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods

1. Outcome Target

Provide direct technical assistance in areas of money, marketing, and management for entrepreneurs and small business owners.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
145	155	165	175	185

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 606 - International Trade and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

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

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Based Watershed Program (Extension)

2. Brief summary about Planned Program

The OSU Watershed team's mission is to build the capacity of Ohioans to protect, restore, and enhance watershed health. The team works with state agencies, watershed groups, and multiple departments within the College to empower communities to create healthy watersheds through collaboration and cutting edge educational programming. The CBWM Program for 2007-2011 includes a number of activities and three specific programs that we will highlight in this report: the Ohio Watershed Academy (OWA), the Ohio Watershed Leaders workshop (OWLs), and the Ohio Certified Volunteer Naturalists (OCVN). Ohio Watershed Academy (OWA) The Ohio Watershed Academy (OWA) is a professional-development course designed to help participants develop and implement watershed action plans that involve, excite, and commit communities. The course was developed through a steering committee of many partners and programs that promote watershed management in Ohio. A few of the partners include local watershed coordinators, Ohio Department of Natural Resources, Ohio EPA watershed program staff, local health departments, Soil and Water Conservation Districts and Ohio Environmental Council. Programs affiliated with the Network include the Ohio Department of Natural Resources state watershed coordinator grants program and Ohio EPA's Section 319 program. The OWA includes web-based lessons and in-person meetings with peers and instructors. The purpose of the Ohio Watershed Academy is to develop the capacity of students to facilitate collaborative watershed planning efforts. Ohio Watershed Leaders (OWLs) The Ohio Watershed Leaders is a 2-day leadership and professional development workshop for watershed coordinators and natural resources professionals throughout Ohio. The workshop is designed to encourage team and leadership development as well formation of professional relationships and collaboration. The workshop is offered in various scenic locations throughout the state (e.g., Cuyahoga National Park). The approximate number of participants is 65 per year. Ohio Certified Volunteer Naturalist Program (OCVN) The OCVN is program currently being developed the first group of participants will begin in the fall of 2006. The overall goal of the Ohio Certified Volunteer Naturalist Program (Formerly Master Naturalist) is to promote awareness and citizen stewardship for Ohio's natural resources through science-based education and community service. Ohio has established a steering committee that meets monthly. The committee is individuals from Ohio State University Extension and Ohio Sea Grant, Ohio Department of Natural Resources, Five Rivers Metro Parks, Ohio Bird Count Initiative, The Audubon Society, Ohio State University Master Gardener Volunteers, and the Ohio Parks and Recreation Association. We anticipate approximately 30 participants in 2006, with significant growth in 2007 as new local chapters are created. In addition to leadership and team building sessions, presentations on applicable research and skills are offered. In 2005 presentations by OSU Extension specialists and OSU researchers in volunteerism, wildlife, and aquatic ecology were offered to participants.

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

●	112	100%	Watershed Protection and Management

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

1. Situation and priorities

Ohio Watershed Academy (OWA) All across the United States, watershed collaboratives are forming to address water resource management issues. In Ohio, government agencies are encouraging the formation of watershed collaboratives for the purposes of developing and implementing comprehensive watershed management plans. Currently there are over 100 watershed organizations in Ohio. In 2000, the Ohio Environmental Protection Agency (OEPA) and Ohio Department of Natural Resources (ODNR) created a grant program whereby watershed collaboratives could hire full-time Watershed Coordinators to lead local stakeholders in developing watershed management plans. Recognizing the need to provide some basic training in collaborative planning for these new positions, administrators from OEPA and ODNR approached Ohio State University Extension about creating a professional development course in collaborative watershed planning for Watershed Coordinators and other interested watershed group leaders

and participants. The Ohio Watershed Academy was thus created with funding from OEPA using federal dollars under the Clean Water Act, Section 319. Ohio Watershed Leaders (OWLs) The Watershed Initiative between OSU Extension, Ohio EPA, and ODNR offers few opportunities for informal statewide networking of agency professionals and watershed project leaders yet evaluation studies conducted as part of the Ohio Watershed Academy indicate the importance of peer interactions in the professional development of watershed leaders. Thus, there is a need for programs to facilitate networking between watershed coordinators and agency professionals. The goal of OWLs is to promote and enhance leadership skills and professional networks among watershed professionals. OSU Extension has offered the OWLs program in cooperation with Ohio Department of Natural Resources since 2001 the participants have found it to be worthwhile for professional development. The program is planned with a multi-agency steering committee. Ohio Certified Volunteer Naturalists Across the nation, 23 states offer or are in the process of developing a volunteer naturalist program. These programs are being coordinated by land grant universities, state natural resource agencies, local governments, and local parks and nature centers. Nationally the program is called The Master Naturalist Initiative and is funded by the US Fish and Wildlife Service. Currently, to become certified the national initiative requires Volunteer Naturalist candidates complete a standardized 40-hour classroom and field-training program and then donate a minimum of 40 hours of volunteer service. An additional 40 volunteer hours and 8 hours of continuing education are required annually to maintain certification. Primary audiences for OCVN include Local volunteers, educators, conservation organization members, vo-ag students, Master Gardeners, SWCD Educators, scout leaders, and retirees

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

Ohio Watershed Academy (OWA)A team of staff at OSU Extension developed the curriculum and course design. An external multi-disciplinary and multi-stakeholder Advisory Committee provided feedback and developed many of the instructional modules. Both the content and overall design of the course were created with the following four components of adult education in mind (Merriam and Caffarella, 1991):• Life experience as a content/trigger to learning.• Self-direction and autonomy.• Self-reflection.• Expression of learning.In designing the Ohio Watershed Academy, we have strived to:• respect the pre-existing knowledge and life experiences of our students,• provide them with opportunities to critically reflect on their practices and express their learning, and• create opportunities for building professional relationships.Evaluations from the first three classes provided us with information about the program. The strengths included:• Relevance of course content to professional roles.• Exposure to new perspectives on watershed planning, particularly related to stakeholder participation.• Opportunities to network and socialize with other watershed professionals.The majority of coursework is conducted at a distance, with students working through a series of instructional modules, submitting assignments electronically via the Internet using a Web interface. Instructional modules can be viewed on the Web at the following URL: http://ohiowatersheds.osu.edu. A summary of the in-depth learning projects is presented to the class and posted to the Academy Web-site.The third component of the course involves face-to-face meetings where students get together for presentations from speakers and share their in-depth learning projects. These meetings also provide students with time to build social networks.
Ohio Watershed Leaders (OWLs)Network and professional development opportunities in informal settings are vital to learning and effective relationships among Ohio's watershed professionals. Assumptions of the program are based on the following:• Positive feedback from participants• Evaluations that indicate participants are developing new professional relationships• Level of participation has been consistent year-to-year even though the program takes place in different regions of the state.Ohio Certified Volunteer Naturalists (OCVN)Based on an online survey of potential participants in 2005, reactions to a statewide press release and the popularity of Master Gardeners, the OSU Extension watershed team had evidence that a volunteer naturalist program would be an effective way to increase the knowledge and stewardship skills of Ohio's residents. The information from the on-line survey helped decide what major topic areas, what learning objectivess, and how volunteers service hours may be utilized. The steering committee is creating a statewide core curriculum and manual, as well as a formal organizational structure. This spring, pilot courses are planned in Dayton and Youngstown and two pilots are planned for yet to be determined locations this fall. After the pilot program has been evaluated, we hope to offer the program in other parts of the state.

2. Ultimate goal(s) of this Program

Ohio Watershed Academy Watersheds meeting and exceeding water quality standards. Sustainable watershed groups that successfully implement watershed action plans. Communities that take responsibility for protecting water resources that enters and leaves their watershed. Ohio Watershed Leaders Strengthened relationships and communication among natural resource professionals and volunteers. Effective use of financial and human resources toward improving water quality in Ohio. Ohio Certified Volunteer Naturalists Citizen stewardship of Ohio's natural resources.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	6.5	0.0	0.0	0.0
2009	6.5	0.0	0.0	0.0
2010	6.5	0.0	0.0	0.0
2011	6.5	0.0	0.0	0.0
2012	6.5	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Ohio Watershed Academy (OWA) Conduct OWA (annual 4 month distance education course) Conduct face-to-face meetings (three face to face meetings per course) Develop modules and manual (on-line modules and manual updated annually) Market program Evaluations (one summative, one formative and on-going on-line evaluations annually) Update website (GIS, land use, and project implementation modules to be added in 2006) Ohio Watershed Leaders (OWLs) Coordinate overnight facilities, guest speakers and facilitators Conduct multi-agency program planning meetings Market program Develop and conduct evaluation (one summative evaluation) Ohio Certified Volunteer Naturalist (OCVN) Develop OCVN manual Conduct OCVN trainings for potential volunteers Develop marketing materials Develop website Develop and conduct evaluations Organize and coordinate volunteers

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

Extension	
Direct Methods	Indirect Methods
• Other 1 (team building exercises) • Group Discussion • Education Class • Workshop • Demonstrations • Other 2 (individual study projects)	• Other 1 (peer teaching) • Web sites • Other 2 (volunteer services)

3. Description of targeted audience

Ohio Watershed Academy Watershed group leaders Graduate and undergraduate students Natural Resource Professionals Local public officials Watershed group volunteers Ohio Watershed Leaders Watershed coordinators Nonprofit coordinators Natural resource professionals Watershed group volunteers Ohio Certified Volunteer Naturalists Youth Retirees Park and natural area volunteers Home and garden club members Volunteers from various environmental organizations (e.g., watershed groups, land trusts)

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	111	0	15	0
2009	115	0	20	0
2010	120	0	25	0
2011	130	0	30	0
2012	140	0	35	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Ohio Watershed Academy Number of Ohio Watershed Academy classes offered Number of manuals distributed Number of face-to-face meetings Number of promotional materials distributed Number of watershed plans Academy participants complete Number of on-line modules developed Number of guest instructors

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

- Ohio Watershed Leaders Number of workshops Number of materials distributed Number of workshop participants

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

- Ohio Certified Volunteer Naturalists Number of trainingsNumber of agency partners collaborating Number of manuals distributed Number of certified and trained volunteers Number of chapters formed Number of volunteer service hours completed

  2008 :5 **2009 :**15 **2010 :** 20 **2011 :**20 **2012 :**20

V(I). State Defined Outcome

1. Outcome Target

Ohio Watershed Academy Short Term Percentage of participant incremental increase in self reported knowledge assessment scores (offered pre and post Academy training) Percentage of participants expanding knowledge and skills in watershed planning and professional networks (self reported)

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
80	80	80	80	80

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Watershed Academy Medium Term Percentage of participants implementing specific skills (e.g., stakeholder involvement, evaluation and/or outreach strategies) Percentage of participants taking on new leadership roles in watershed management

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
80	80	80	80	80

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Watershed Academy Long term Improved watershed health (e.g., changes in water and habitat quality) Improved community and capacity for watershed protection in participant groups or organizations (percentage funding increase, new protection policies) Improved group organizational capacity (e.g., number of members, strategic plans created)

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Watershed Leaders (OWLs) short term Percentage of participants increasing professional networks Percentage of participants increasing knowledge and skills

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
80	80	80	80	80

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Watershed Leaders (OWLs) Medium term Percentage of participants cooperating or collaborating as a result of participation at OWLs Number of new partnerships or collaborations Percentage of participants implementing a new idea or skill gained from OWLs

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
60	60	60	60	60

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Watershed Leaders (OWLs) long term Dollars saved or generated as a result of new partnerships and/or collaborations

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Certified Volunteer Naturalists (OCVN) Short term Percentage of participants gaining knowledge and skills in local ecology, ecological systems, data collection, conservation, and interpretation Incremental increase in organizational capacity due to OCVN contributions (e.g., number of hours of interpretation offered, number of visitors reached)

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
80	80	80	80	80

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Certified Volunteer Naturalists (OCVN) medium Percentage of participants applying conservation practices Percentage of participants involved in long-term monitoring and/or educational programs Percentage of OCVN volunteers participating in community service efforts beyond required service Percentage of OCVN who take on leadership roles (e.g., serve on the boards of directors of organizations serving the community and/or leading community events)

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
80	80	80	80	80

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

1. Outcome Target

Ohio Certified Volunteer Naturalists (OCVN) long term Increases in ecosystem quality (as measured with test-kit and monitoring protocols) Increases in environmental services (e.g., acres of green space and/or protected areas, number of easements)

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Competing Public priorities
- Other (Land Use development)

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study
- Other (water quality & habitat monitori)

Description

Ohio Watershed Academy (OWA) Formative evaluation at face-to-face meetings to make mid Academy changes On-line module evaluation questionnaire to capture technical problems and reactions to quality of modules as students complete them Summative evaluation questionnaire Pre and post-self assessment of knowledge Follow up phone interview to gather information on increases in community or group capacity, and water quality improvements Ohio Watershed Leaders (OWLs) Summative evaluation questionnaire Follow up phone interviews to gather information on formation of professional partnerships and collaboration and potential benefits (e.g., cost savings, increases in organizational and/or community capacity) Ohio Certified Volunteer Naturalist (OCVN) Knowledge test for certification of volunteer naturalists Follow up phone interview to determine practice and changes in community capacities Questionnaire on reactions of participants Water and habitat monitoring

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Leadership Development (Extension)

2. Brief summary about Planned Program

The Community Development Leadership Development Education program includes a broad array of classes for elected, appointed, and volunteer community and organizational leaders and potential leaders. These classes include essential subjects like, ethics, dealing with the media, conducting effective meetings, working with citizens, building sustainable communities, team building, conflict management and resolution, leadership talents, leadership styles and skills, effective decision making, time management, creativity, etiquette, relationship building, principles of leadership, dealing with negative people, Roberts Rules of Order, intergovernmental relations, technology in local government, holding large group meetings, leading with integrity, making strengths based change in communities and organizations, discovering and building on community and organizational assets, creating a shared community vision, and regionalism.
These classes last any where from one (1) hour long to seventy two (72) months long. All classes include lecture, class discussion, and sometimes demonstrations. Some classes also include experiential activities and projects. The goal is to change behavior through the dissemination of information and participant dialogue. When it is appropriate and time allows, the participants are given the chance to experiment in a safe educational setting and then encouraged to test their skills by completing a community project. Many of the classes are done in collaboration with local partners such as the Chamber of Commerce, another college or university, a local foundation, a small business, or a non-profit organization. These collaborative classes are designed to meet the needs of local communities and supplement their leadership development educational activities. All classes are non-credit and are geared to the adult learner.
Approximately 50% of the classes are directed toward elected and appointed leaders. The remaining 50% are directed toward business and non-profit leaders. The elected officials tend to be Township Trustees, County Commissioners, City and Village Council members, Mayors, and a wide variety of other government agency leaders. The non-profit leaders come mostly from social service organizations and the business leaders come exclusively from small and medium size enterprises.

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

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

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

6. Expending other than formula funds or state-matching funds : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

602	20%	Business Management, Finance, and Taxation
608	20%	Community Resource Planning and Development
802	20%	Human Development and Family Well-Being
803	20%	Sociological and Technological Change Affecting Individuals, Families and Communities
805	20%	Community Institutions, Health, and Social Services

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

1. Situation and priorities

Ohio ranks sixth (6th) among all fifty states in number of local governments with 3,636. There are over 500,000 people employed by those governments. As of 2004 there were 59,552 non-profit organizations in Ohio that employ approximately 2,400,000 people and that number is growing at about 2.5% each year. There are 850,961 small businesses in Ohio who employ approximately 3,300,000 people. If Marshall Goldsmith and Howard Morgan are correct in their suggestion in a recent article in Strategy and

Business that “Leadership is not just for leaders anymore. Top companies are beginning to understand that sustaining peak performance requires a firm-wide commitment to developing leaders that [is] sic. tightly aligned to organizational objectives — a commitment much easier to understand than to achieve. Organizations must find ways to cascade leadership from senior management to men and women at all levels.” OSU Extension has over 7,114,149 leaders and potential leaders to educate. Even if just 1% of the public, non-profit, and small business employees were to receive just 8 hours of leadership development education each year it would require 10 FTEs doing nothing but delivering training all day every day of the year to classes of 30 people. The opportunity to improve the performance of all three sectors through leadership education is enormous. The goal of OSU Extension Community Development leadership education is to provide programs that increase the likely hood that: • people will step forward when leadership is called for • people in leadership positions will build relationships and interact with others in ways that efficiently and effectively get things done both in the short and long term. It is also the goal of leadership education to increase the likely hood of leaders acting: ethically, responsibly, wisely, inclusively, courageously, decisively, collaboratively, with humility, compassionately, justly, openly, and with integrity From the highest levels of State Government to the lowest of local government Ohio suffers from the lack of citizen trust because of ethics violations. In 1995, 690 elected officials were convicted of ethics violations indicating a need for ethics education. Elected officials throughout Ohio are beginning to act on a regional basis but there is still a long way to go. In many places in Ohio cities still compete against one another for business and industry instead of creating a regional plan that brings new business into the area is ways that benefit everyone. No multi-county business development plans currently exist in Ohio. At the present time there are 76 Community Leadership Programs in the State of Ohio. These programs are run mostly under the sponsorship of local Chambers of Commerce. Each year they request and receive educational support from OSU Extension. Ten (10) of the programs, exclusively in rural areas, are run entirely by OSU Extension Educators. These programs fill the need for leadership development education for volunteers who serve in a variety of elected and appointed positions throughout Ohio communities but mostly on Non-Profit Boards and community project groups.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

The first and most basic assumption is that leadership can be taught. Through listening, reflection, practice and experimentation people can improve their ability to work with other people to get things done. The second assumption is that elected and appointed officials, volunteer leaders, and potential leaders believe that attending Extension classes will improve their leadership abilities. A third assumption is that the Community Leadership programs in Ohio will continue to exist and request support for their programs from OSU Extension. There are two ways these classes work. The first is request come from Leadership programs and organizations across the state for education on a specific subject for a specific group. The class is custom created for and presented to that specific group. The other way the classes work is that an Extension Educator, Specialist, or a group of either or both chooses a topic and develops and markets the course to groups and organizations around the State of Ohio. Experience tells us that these two methods of providing Leadership Development Education are successful. All Leadership Development Education is based on published research, best practices, and first hand experience.

2. Ultimate goal(s) of this Program

The goal of this program is to: • Decrease ethics violations in Ohio • Decrease the cost, in real terms, of government • Increase the level of service of government • Increase citizen participation in government • Decrease community conflict and the need for mediation • Increase trust in government • Increase the number of people willing to lead

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	4.2	0.0	0.0	0.0
2009	4.2	0.0	0.0	0.0
2010	4.2	0.0	0.0	0.0
2011	4.2	0.0	0.0	0.0
2012	4.2	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Partner with local organizations • Develop curriculum • Conduct classes • Evaluate results

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

Extension	
Direct Methods	Indirect Methods
• Education Class • Other 1 (Experiential activities) • Other 2 (Group projects) • Workshop • Demonstrations • Group Discussion • One-on-One Intervention	• Web sites • Newsletters

3. Description of targeted audience

• Elected and appointed officials • Non-profit leaders • Business leaders • Community volunteer leaders • Citizens who are thinking about running for public office • Potential leaders

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	800	0	0	0
2009	800	0	0	0
2010	800	0	0	0
2011	800	0	0	0
2012	800	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of classes held and number of participants

2008 :55 **2009 :**55 **2010 :** 55 **2011 :**55 **2012 :**55

- Partnerships with local organizations

2008 :25 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**25

- number of curriculum developed

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

V(I). State Defined Outcome

1. Outcome Target

Increase in ethics knowledge by 70% of participants

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :16 **2009 :** 15 **2010 :** 15 **2011 :**15 **2012 :** 15

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

Increase in willingness to step forward and be a leader 70% of participants

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :560 **2009 :** 560 **2010 :** 560 **2011 :**560 **2012 :** 560

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

1. Outcome Target

Increase by 70% of participants in knowledge about: Being responsible making wise choices inclusivity courage acting

decisively collaborating humility compassion justice openness integrity

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
125	125	125	125	125

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation

1. Outcome Target

20% increase in calls by elected officials to the Ohio Ethics Commission

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
15	15	15	15	15

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

1. Outcome Target

10% increase in large community meetings

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
15	15	15	15	15

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

1. Outcome Target

1% increase in regional cooperation by elected officials

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
15	15	15	15	15

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

5% increase in community vision building

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

1% increase in participation in Ohio Community Leadership Development Programs

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

5% decrease in Ohio ethics court cases

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
15	15	15	15	15

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

1% increase in citizen participation in local government

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

1% decrease in community conflict and the need for mediation

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
55	55	55	55	55

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

1% increase in citizen trust of local government

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
55	55	55	55	55

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

5% increase in the number of people willing to step forward when asked to lead

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
560	560	560	560	560

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)

Description

If there is severe winter weather classes are sometimes cancelled.

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

1. Evaluation Studies Planned

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

Description

There will be pre and post tests to measure knowledge gained. We will collaborate with the Ohio Ethics Commission to monitor contacts and cases. We will choose a random sample of people to monitor violations over the five years.

2. Data Collection Methods

- Sampling
- Telephone
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Conservation Tillage (Extension)

2. Brief summary about Planned Program

The primary program for this report is the Conservation Tillage & Technology Conference. It (including its predecessors) has been held annually in Ohio since the early 1980s, making it the longest running conservation tillage conference in the US. It has been held at Ada, Ohio, since 1993. It is now a two-day program with concurrent sessions on all types of conservation tillage, plus related technologies and issues. The program typically has 60 to 70 speakers, including OSU Extension and research personnel, agency and industry representatives, and farmers. Participants can choose from more than 50 hours of Certified Crop Advisor (CCA) credits on Soil and Water (SW), Nutrient Management (NM), Pest Management (PM), and Crop Management (CM). Attendance in 2007reached 684, a new record. It is a regional conference drawing many participants from Indiana, Michigan and Canada, plus a few from other states. In addition, a one-day Ohio No-till Conference is held in central Ohio in December. It typically has 6 to 10 speakers and draws 150 people. A no-till field day is held each August, attracting about 100 to 150. The no-till conference and the field day are co-sponsored by OSU and the Ohio No-Till Council.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

102	35%	Soil, Plant, Water, Nutrient Relationships
104	10%	Protect Soil from Harmful Effects of Natural Elements
111	5%	Conservation and Efficient Use of Water
112	5%	Watershed Protection and Management
132	5%	Weather and Climate
205	15%	Plant Management Systems
216	10%	Integrated Pest Management Systems
405	5%	Drainage and Irrigation Systems and Facilities
601	10%	Economics of Agricultural Production and Farm Management

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

1. Situation and priorities

Environmental and economic concerns lead farmers to switch from plowing to no-till. Water quality improvement demands from the public will mean farmers must reduce erosion, allow fewer pesticide residues, chemical and manure nutrients in waterways. Research on crop residue management has proven that no-till systems reduce erosion, and the amount of sediment reaching streams, by 50 to 90 percent. Educational programs that present the latest research and concepts of conservation tillage systems

are essential to help farmers adopt more no-till practices. The federal crop subsidy program is likely to move more funding to support conservation systems, and away from simple commodity payments which encourage farmers to maximize production regardless of the effect on the environment. Research information on various components, or features, of ideal no-till systems needs to be updated and presented to help farmers move toward continuous no-till. This includes cover crops, controlled traffic, manure management on cropland, site-specific application of herbicides, fertilizer and insecticides, planter design and adjustment, and auto-steering.

2. Scope of the Program

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

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

1. Assumptions made for the Program

The Conservation Tillage Conference is based on research. The program has evolved and expanded over many years of successful programming and increasing attendance. Our experience shows that this method works well for multi-state education of farmers, public agency personnel, and crop consultants. Participation keeps growing, reaching 657 in 2006. The number of topics covered, and educators making presentations, has grown consistently. Future public policy will require farmers to adopt conservation tillage systems to qualify for government support

2. Ultimate goal(s) of this Program

Farmers will adopt no-till and other conservation tillage systems. Farmers will use inputs more efficiently, resulting in direct economic benefits to them, and environmental benefits to society.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	2.4	0.0	0.0	0.0
2009	2.6	0.0	0.0	0.0
2010	2.7	0.0	0.0	0.0
2011	2.8	0.0	0.0	0.0
2012	2.8	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Conservation Tillage Conference each February No-till Field Days each summer No-till Council program each December Farm Science Review demonstrations and programs each September Develop educational materials (fact sheets, powerpoints) for use by educators Ohio No-till News page in Ohio's Country Journal, 8 issues per year Information also presented on farm radio networks (ABN, BARN) and on web sites.

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

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Other 1 (Field days) • Workshop • Education Class	• Other 1 (Radio Programs) • Other 2 (farm magazines)

3. Description of targeted audience

Farmers, primarily those growing corn, soybeans and wheat, plus large livestock operations with manure management problems Public agency personnel (primarily Extension; NRCS; SWCD) Crop consultants Ag industry (suppliers of machinery, fertilizer, chemicals)

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	2000	50000	200	8000
2009	2200	50000	200	8000
2010	2200	50000	200	8000
2011	2500	50000	200	8000
2012	2500	50000	200	8000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- At the Conservation Tillage Conference, we know how many crop consultants attend and which sessions they participate in. Based on evaluations submitted, we also have a good estimate on the number of farmers attending, the total acres, and the

economic value per acre these farmers place on the conference. Reported in millions of dollars.

2008 :20 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**25

- No-till field days and the Ohio No-till conference also offer credits for crop consultants, and evaluation surveys provide estimates of economic value to consultants and farmers. Reported in millions of dollars.

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

- Ohio No-Till News page appears in Ohio's Country Journal, about 8 issues per year. The circulation of the journal is 20,000 and growing.

2008 :20000 **2009 :**22000 **2010 :** 22000 **2011 :**25000 **2012 :**25000

- The value of the web sites (ctc.osu.edu and fabe.osu.edu/notill) can be roughly estimated by the number of page views.

2008 :1000 **2009 :**1000 **2010 :** 1000 **2011 :**1000 **2012 :**1000

V(I). State Defined Outcome

1. Outcome Target

All participants gain knowledge of conservation tillage topics, including no-till corn, precision agriculture, controlled traffic, manure management for crops, water management, and cover crops.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :800 **2009 :** 800 **2010 :** 900 **2011 :**900 **2012 :** 1000

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 104 - Protect Soil from Harmful Effects of Natural Elements
- 601 - Economics of Agricultural Production and Farm Management

1. Outcome Target

Ten percent of participants not currently using conservation tillage for growing corn will at least try the practice. We will ask about tillage intentions on our evaluation form, and also ask about changes made the previous year as a result of attending a previous CTC or another one of our programs.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 112 - Watershed Protection and Management
- 132 - Weather and Climate
- 601 - Economics of Agricultural Production and Farm Management

1. Outcome Target

A measurable goal is that the acres of corn farmed no-till will increase 5% by 2011, as determined by a USDA survey. The most recent one in 2004 showed 23% of Ohio corn was no-tilled, so increasing to 28% is doable. Since 63% of soybeans are already no-tilled, virtually all of the increase would be in continuous no-till.

2. Outcome Type : Change in Condition Outcome Measure

2008 :23 **2009 :** 24 **2010 :** 25 **2011 :**26 **2012 :** 28

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 216 - Integrated Pest Management Systems
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Perhaps the biggest external factor for grain farmers is always the “farm bill”. Changes are likely in the next farm bill that will switch a portion of commodity payments to conservation payments. If corn and soybean growers must use conservation tillage to qualify for maximum payments, there will be a higher demand for more research and educational programs. There is constant pressure on farmers to reduce input costs to remain competitive in world markets. Energy costs are currently increasing faster than any other input. At the same time, higher prices for crude oil increase the market for ethanol and soydiesel, so the farmer is receiving a higher price for corn and soybeans. The higher price for corn is causing more farmers to grow corn following corn which will, indirectly, reduce acres of no-till. For continuous corn, chisel plowing gives significantly higher yields than no-till.Water quality issues related to nitrogen, phosphorus, and pesticides in streams, lakes, and the Gulf of Mexico puts pressure on farmers to use these inputs more wisely. Farmers may invest in more sophisticated equipment to meet both the economic and environmental goals of using less of these products and applying them in a timelier manner.

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

1. Evaluation Studies Planned

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

Description

We will continue to collect evaluations at CTC and our other programs. For CTC we made some changes to gather more complete and detailed information about the total acres impacted, and the educational value of the education provided.

2. Data Collection Methods

- Sampling
- On-Site

Description

Our evaluations will be conducted on-site. We continue to make changes to get a higher percentage of participants to fill out the survey/evaluation forms.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Direct Marketing Program (Extension)

2. Brief summary about Planned Program

The OSU Direct Marketing Team provides leadership that enhances the growth of the agricultural industry through research, education and other services that increase direct farm sales of products, services and experiences. The team works with farmers, producers and other entrepreneurs; and facilitators such as educators, advocates, agencies, associations, and other organizations. Activities include providing convenient educational programs; innovative tools and resources; reliable technical assistance; and applied research. Primary activities include an Annual conference, educational resource development and applied research to identify and report the profile, priorities and impacts of direct marketing. Immediate outcomes include increased awareness and knowledge of audiences engaged in the program. Intermediate outcomes include improved marketing practices of entrepreneurs; improved behavior that supports networking through agencies, associations and events; improved educational and promotional practices of educators and other facilitators. Long term social and economic impacts result from increasing the connections between consumers-farmers-markets-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

604	50%	Marketing and Distribution Practices
607	10%	Consumer Economics
608	40%	Community Resource Planning and Development

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

1. Situation and priorities

Farmers face an increasingly complex number of challenges to profitability, including the potential of reduced government support, institution of new global trade policies, and changing consumer preferences. Operators of small farms with 1 – 179 acres, which have grown to represent 75 percent of Ohio farms, are seeking ways to overcome these challenges and improve profitability through creative direct marketing strategies. OSU Extension's statewide Direct Marketing team taps into Ohio's unique opportunities to link consumers-farmers-markets-communities. Ohio is rich in diversity with rural Appalachian communities to the southeast, a lakefront region to the north, growing immigrant populations in 15 metropolitan areas, a growing elderly population, and a substantial under-developed market referred to as LOHAS (lifestyles of health and sustainability) consumers. Opportunities result from a number of factors, including 1) Ohio ranks in the top five states for direct farm sales, according to the 2002 Census of Agriculture; 2) There is an increasing number of small acreage farms and an increasing number of farmers' markets; 3) The unique proximity of metropolitan and micropolitan areas link rural and urban communities; 4) While the state's population grew 5% between 1990 and 2000, some counties experienced growth rates as high as 64%, with the immigrant population increasing by as much as 152%. The immigrant population is growing faster than net domestic migration; 5) The most recent Ohio Survey of Food, Agricultural and Environmental Issues found that 89% of respondents said they frequently or occasionally buy locally grown foods. Priorities include conducting applied research to better identify state and regional issues and impacts; leveraging regional and national resources; publishing and presenting easily accessible educational tools and research findings for target audiences.

2. Scope of the Program

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

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

1. Assumptions made for the Program

As strategy, we are concerned with how the farm successfully competes in its chosen business. As tactics, we assist farmers to design and implement marketing mix variables for the purposes of creating and sustaining strong customer relationships. The Ohio State University research and Extension Direct Marketing team of the OSU Extension of the College of Food, Agricultural & Environmental Sciences, provides a statewide network of specialists who deliver expertise on new products, new markets and new marketing strategies. These specialists collaborate with state, regional and national organizations to advance direct marketing best practices and impacts. The interdisciplinary team brings together a strong collaborative partnership which draws upon the expertise of leading researchers, educators, and farmers, all of whom are involved in direct agricultural marketing; tourism and community development; research and evaluation; entrepreneurship; and outreach. According to the Census of Agriculture, Ohio farmers reported over $37 million in direct farm sales for 2002, up 19 percent from 1997. The number of farms engaged in direct marketing is also on the rise with more than 6,200 farms reporting direct sales in 2002. Small and medium scale enterprises benefit from direct marketing because they can begin operating and profiting with volumes that might otherwise be too small for conventional marketing outlets.

2. Ultimate goal(s) of this Program

The long-term goal of the Direct Marketing team is to grow direct farm sales in Ohio. Additional goals include improving the profitability, viability and sustainability of small farms by advancing direct marketing capabilities that link consumers, farmers, markets and communities; enhancing food and health of Ohio's consumers as well as improving social and economic conditions by creating opportunities at the rural/urban interface and strengthening communities, neighborhoods, and families. The OSU Direct Marketing team engages a variety of stakeholders in developing the consumer – farmer – market – community connection. Outcomes include improving knowledge, skills and practices of entrepreneurial farmers, farmers' market managers, educators, community leaders, media and consumers.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	10.0	0.0	1.0	0.0
2009	10.0	0.0	1.0	0.0
2010	10.0	0.0	1.0	0.0
2011	10.0	0.0	1.0	0.0
2012	10.0	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The plan of work for the OSU Direct Marketing team includes developing a more in-depth stakeholder database and assessing priorities of these target audiences; developing and delivering educational programming in a variety of formats; engaging in outreach activities with media, consumer groups and a diverse group of organizations. Activities include providing convenient educational programs; innovative tools and resources; reliable technical assistance; and applied research. Primary activities include an Annual Direct Marketing conference, educational resource development and applied research to identify and report the profile, priorities and impacts of direct marketing. We build individual and community capacity through new tools, training, technical assistance and

networking opportunities for target audiences. We raise the visibility and standing of direct marketing ventures through a series of research reports and branded communications that strengthen the farmer-consumer-market-community connection. We partner with the Ohio State University Extension Tourism Team to advance shared priorities.

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

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Workshop • Group Discussion • Education Class	• TV Media Programs • Newsletters • Web sites • Public Service Announcement

3. Description of targeted audience

Target audiences include 1) farmers, producers and other agripreneurs who are currently or not currently engaged in direct marketing; 2) facilitators, such as educators, farmers' market managers, food system organizers; government agencies, industry associations, travel and tourism groups, economic development professionals and community organizations; 3) media, consumer groups and other collaborators interested in advancing farmer-consumer-market-community connections.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	600	1500	0	0
2009	700	2000	0	0
2010	800	2500	0	0
2011	900	3000	0	0
2012	1000	5000	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	1	0
2009	0	1	0
2010	0	1	0
2011	0	1	0
2012	0	1	0

V(H). State Defined Outputs

1. Output Target

- Output measures will be documented through event registration and evaluation forms; information request summaries; web statistics; media clips; and copies of research reports and educational resources. Milestones for specific activities are established and monitored through monthly team interaction. Evaluation methodology includes print and electronic quantitative surveys, as well as telephone and face-to-face interviews for qualitative evaluation.

2008 : 3 **2009 :** 5 **2010 :** 7 **2011 :** 9 **2012 :** 11

V(I). State Defined Outcome

1. Outcome Target

The primary long term outcome measure is the growth direct farm sales in Ohio as reported through the Census of Agriculture and other Direct Marketing team activities that provide insight into improved economic and social conditions.

2. Outcome Type : Change in Condition Outcome Measure

2008 : 5 **2009 :** 0 **2010 :** 0 **2011 :** 0 **2012 :** 5

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices

1. Outcome Target

increased awareness and knowledge of audiences engaged in the program; improved marketing practices of entrepreneurs; improved behavior that supports networking through agencies, associations and events; improved educational and promotional practices of educators and advocates.

2. Outcome Type : Change in Action Outcome Measure

2008 : 100 **2009 :** 150 **2010 :** 200 **2011 :** 250 **2012 :** 300

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

increasing the connections between consumers-farmers-markets-communities.

2. Outcome Type : Change in Condition Outcome Measure

2008 : 100 **2009 :** 150 **2010 :** 200 **2011 :** 250 **2012 :** 300

3. Associated Knowledge Area(s)

- 604 - Marketing and Distribution Practices
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The growth direct farm sales in Ohio may be impacted by a variety of external factors such as natural disasters, shifts in the population or economy; changes in appropriations, public policy or government regulations. Natural disasters could impact production and supply, and therefore farm sales. Shifts in the population or economy could impact consumer demand. Changes in appropriations could impact the resource availability from educators and intermediary organizations. Changes in public policy or government regulations impact flow of marketing communications as well as product and service delivery.

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

1. Evaluation Studies Planned

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

Description

Evaluation methodology includes print and electronic quantitative surveys, as well as telephone and face-to-face interviews for qualitative evaluation.

2. Data Collection Methods

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

Description

The format for formative and summative evaluations include 1) Evaluation Questions/Objectives & Information required/Information Source; 2) Method for collecting information, by whom, when & Analysis procedures; 3) Reporting information to whom, how & when.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Downtown Revitalization (Extension)

2. Brief summary about Planned Program

The OSU Extension Downtown Revitalization program consists of many components. Retail Market Analysis and First Impressions are the two major offerings for small communities. Retail Market Analysis provides market analysis tools so that communities can focus on the sectors most applicable to their needs. First Impressions allows communities to exchange teams of volunteers to allow these groups to form “first impressions” of the communities. The information obtained from the visits is presented as a written report for each community to analyze and act upon.

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

602	20%	Business Management, Finance, and Taxation
603	15%	Market Economics
607	15%	Consumer Economics
608	50%	Community Resource Planning and Development

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

1. Situation and priorities

Many small cities have been by passed by with little or no economic development for the past three decades. Small cities, defined as populations of less than 100,000, nationwide have seen continued economic leakage, from downtown to outlying edge locations. Once the center for community and economic activity, downtowns have suffered the loss of retail and other business activities to sites in shopping centers and commercial strips. Many downtowns face high vacancy rates and a poor mix of retail tenants. They lack market research and marketing support available to big retailers and site developers

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

Most residents of small communities have a vested interest in promoting growth and vitality. It is to their advantage to promote downtown growth and revitalization because many small town business owners live and work in their own community. Large retailers growth increases the challenges that small communities face in developing downtown. (based upon research by Elena Irwin and Ken Stone). Downtown revitalization has a domino effect in that if one community has a positive outcome or change others will follow their example.

2. Ultimate goal(s) of this Program

Small communities will implement a specific plan to increase downtown development and revitalization

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	5.0	0.0	3.0	0.0
2009	6.0	0.0	3.0	0.0
2010	7.0	0.0	4.0	0.0
2011	7.0	0.0	5.0	0.0
2012	7.5	0.0	5.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Organize and conduct meetings with local community members. This includes a core study group of community leaders interested in learning about their community and economic revitalization. This team will conduct the market analysis, make recommendations and develop a plan to implement the recommendations. Team members will learn how to collect and analyze market data by identifying and analyzing the community's trade area. Facilitate development of a plan with input from local downtown committee Train community members to conduct analysis planning

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • Education Class • Workshop	• Web sites • TV Media Programs

3. Description of targeted audience

Participants are members of a local downtown market or economic development committee, local elected officials, residents and small business owners.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	275	1375	0	0
2009	300	1500	0	0
2010	325	1625	0	0
2011	350	1750	0	0
2012	375	1800	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- ___ number of people will attend ___ number of meetings.

2008 :100 **2009 :**120 **2010 :** 150 **2011 :**150 **2012 :**175

V(I). State Defined Outcome

1. Outcome Target

Participants will develop an awareness and knowledge of community downtown revitalization. The participants will be able to identify assets of the community and economic and social areas of the community that need further development.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :250 **2009 :** 300 **2010 :** 300 **2011 :**325 **2012 :** 350

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 607 - Consumer Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

Identify and develop written plan for local downtown economic revitalization.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 603 - Market Economics
- 608 - Community Resource Planning and Development

1. Outcome Target

Participants will implement the plan written and developed by them that will allow their community to increase social and human capital through economic growth.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
100	125	150	175	200

3. Associated Knowledge Area(s)

- 603 - Market Economics
- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Most of the external factors listed above have unforeseeable components, but are likely to occur. As they do occur they would change priorities and outcomes.

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Mail
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Financial Security (Extension)

2. Brief summary about Planned Program

Financial security programs help people meet future needs while keeping pace with day-to-day obligations.

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

801	100%	Individual and Family Resource Management

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

1. Situation and priorities

Many Americans will live 20 to 25 years after they retire. However, pre-retirees may not be preparing to make sure they have enough income and health care throughout their retirement years. Less than three-fifths of baby boomers are expected to have enough income to maintain their pre-retirement standard of living, according to the January 2005 Social Security Bulletin (Vol. 65 No. 3). Groups who will be especially vulnerable at retirement include divorced women, never-married men, Hispanics, individuals who did not complete high school, those who had weak attachment to the labor force, and those who had the lowest earnings.

2. Scope of the Program

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

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

1. Assumptions made for the Program

By estimating needed savings for adequate retirement income, people will be motivated to use savings and investment strategies to accumulate adequate savings.

2. Ultimate goal(s) of this Program

People will accumulate adequate savings to meet future financial needs.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	38.0	0.0	5.0	0.0
2009	38.0	0.0	5.0	0.0
2010	38.0	0.0	5.0	0.0
2011	38.0	0.0	5.0	0.0
2012	36.0	0.0	4.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

□ Conduct savings and investment workshops focused on reaching long-term goals
□ Develop and distribute curriculum, fact sheets, media releases, and web resources focused on saving for future needs and wants
□ Meetings with partners and stakeholders

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • Education Class • Workshop	• Public Service Announcement • Other 2 (Newspaper) • Other 1 (Radio Programs) • Newsletters • Web sites

3. Description of targeted audience

Baby boomers, especially women New employees

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	3000	6000	0	0
2009	4000	8000	0	0
2010	4600	9200	0	0
2011	5000	10000	0	0
2012	3500	12000	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	3	3	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- # web page hits

2008 :2000 **2009 :**4000 **2010 :** 6000 **2011 :**8000 **2012 :**10000

- # classes conducted

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

- # fact sheets distributed

2008 :1000 **2009 :**1000 **2010 :** 1000 **2011 :**1000 **2012 :**800

V(I). State Defined Outcome

1. Outcome Target

# of people gaining knowledge or planning to adopt behaviors

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :1400 **2009 :** 1500 **2010 :** 1600 **2011 :**1700 **2012 :** 1800

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

# of people utilizing recommended financial management practices

2. Outcome Type : Change in Action Outcome Measure

2008 :500 **2009 :** 600 **2010 :** 700 **2011 :**750 **2012 :** 850

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

# of people initiating or increasing contributions to a retirement plan

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
150	200	250	280	300

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

# of people who establish or revise investment goals

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
150	200	250	300	350

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Wide-spread job losses/ lay-offs could significantly impact saving for future; changes in tax laws

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Financial Stability (Extension)

2. Brief summary about Planned Program

OSU Extension's team of campus, regional center, and county faculty and staff apply research to addressing the concerns of financial well-being and employment success through training for agency personnel, human resources staff and public school teachers and education for individuals and families. These concerns include heavy debt loads, bankruptcy, keeping track of financial records, not having enough income for the most important needs and wants, financial emergencies, trying to get ahead, and having enough money in old age.

Each day we use this research-based information to offer educational programs to improve family sustainability. Our programs are aimed at helping individuals and families in their debt management, financial record-keeping, budgeting and cash flow management, weathering financial emergencies, and saving to meet goals.

- Help Ohioans evaluate their current financial resources, set goals, and establish a plan to meet their goals.
- Help Ohioans who have excessive debt develop and carry out a plan to lower that debt.
- Help Ohio consumers assess their spending in relation to their income and reduce spending as needed.
- Help Ohioans reallocate income to save for their goals.

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

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 : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

801	100%	Individual and Family Resource Management

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

1. Situation and priorities

Non-business bankruptcy rates are close to an all time high, with more that 1.5 million cases filed nationwide during each of the past three years. Ohio had the eighth highest rate of bankruptcy filings in the country in 2003, 7.7 per 1000, compared to 5.5 for the U.S. as a whole. During 2004, 88,416 non-business cases were filed in Ohio (U. S. Bankruptcy Court, 2005). Innovations in technology and financial markets have created a more sophisticated and complex set of financial services and providers for consumers. Some of the new providers are predatory lenders, who have gained a foothold in many markets (Braunstein and Welch, 2002). Other trends that have threatened financial stability for many households include rising debt loads and reduced savings (Montalto, 2003), and for many new workers, cultural and language barriers make banking and consumer credit particularly challenging. Most Americans have come to recognize the importance for financial planning; however, most have not developed a financial plan to look comprehensively at their goals and establish a plan to meet those goals. In a recent study, only 46% of those surveyed had developed a financial plan; with only a third of young people and 22% of the poor having done so (Consumer Federation of America, 2003).

2. Scope of the Program

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

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

1. Assumptions made for the Program

We believe that:

People can use new information that will enable them to change their financial management behavior
People don't automatically change behavior if they learn new information
Extension educators can provide valuable information and techniques that will enable people to improve their financial practices and their financial stability
Multiple session classes will have a greater likelihood of successful behavior change

2. Ultimate goal(s) of this Program

Participants will be able to meet their day-to-day financial obligations.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	38.0	0.0	5.0	0.0
2009	38.0	0.0	5.0	0.0
2010	38.0	0.0	5.0	0.0
2011	38.0	0.0	5.0	0.0
2012	36.0	0.0	4.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Provide in-class training in basic money management Development materials to accompany instruction Provide in-service training for educators on strategies to enable participants to change their behavior Work with stakeholders and partners to leverage resources

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • Education Class • Workshop	• Web sites • Newsletters

3. Description of targeted audience

Bankruptcy filers Young adults Debt-burdened individuals and couples Limited-resource families

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	3000	6000	0	0
2009	4000	8000	0	0
2010	4600	9200	0	0
2011	5000	10000	0	0
2012	4500	12000	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	2	3	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- # of classes and participants in basic money management training sessions

  2008 :13000 **2009 :**14000 **2010 :** 15000 **2011 :**16000 **2012 :**17000

- Curriculum developed

  2008 :3 **2009 :**3 **2010 :** 4 **2011 :**5 **2012 :**5

- # of state-level in-services and educators trained

  2008 :40 **2009 :**45 **2010 :** 50 **2011 :**45 **2012 :**45

V(I). State Defined Outcome

1. Outcome Target

65% of participants will identify at least 1 financial goal and plan to adopt recommended financial management practices

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :8500 **2009 :** 9150 **2010 :** 10000 **2011 :**10500 **2012 :** 11000

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

60% of participants will increase their savings

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
2500	2570	2800	3000	3500

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

60% of participants organized their financial records for quick retrieval

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
1400	1450	1500	1530	1580

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

70% of participants set aside money for occasional expenses

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
850	880	910	960	990

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

1. Outcome Target

End of class evaluation of concepts learned and behavior changes planned

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
990	1200	1540	1800	2200

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- After Only (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- On-Site

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Systems-OARDC Led

2. Brief summary about Planned Program

To meet growing demand, food scientists continue to make advances in techniques and processes that improve the quality of food, expand food preservation, protect against pathogens, and increase functionality. Due to the complexity of food systems, a robust research and extension program is required to meet needs and contribute to a safe and secure food supply. OARDC and OSU Extension support such programs. For example, OARDC works with NASA to heat food and sterilize waste in space. Using ohmic heating, packaging containing electrodes has been developed allowing astronauts to enjoy a hot meal. The techniques are needed on a possible mission to Mars. A parallel study has resulted in a new way to peel tomatoes using very little lye-an environmental waste problem-and preserve the nutrient-rich peel for use in sauces and purees. Currently, more than 12 million tons of tomatoes nationwide are processed into tomato sauce, puree, paste, and whole and diced products. Ohio produces over 177,000 tons of processing tomatoes, valued at nearly $14 million annually. Human nutrition and health continue to be major focal areas for OARDC and OSU Extension. As baby boomers enter their retirement years, cancer and heart concerns grow, and obesity is listed as a national problem, each incremental improvement in health care will have a major impact on society. In nutraceuticals research, for example, OARDC scientists are working with medical researchers in a ‘crop to clinic’ program to examine how phytochemicals in foods fight certain human health problems. Current research focuses on nutrients found in berries to determine if they can stop or slow some types of cancer. OARDC research is making food safer, lengthening its shelf life, and providing expertise to medical researchers and food companies on how to protect food from pathogens. Salmonellosis, for example, is a food-borne disease with 1.4 million cases nationwide with a $2.3 billion cost annually. Eggs are the primary source. OARDC scientists found that by treating whole shell eggs with a combination of ozone, mild heat, and slight pressure significantly reduced contamination in eggs without damaging their quality. Ohio is the second-largest egg producer in the country with production valued at well over $300 million annually. Salmonellosis can have tremendous negative economic impact in Ohio. Food technologies and processes that are being developed not only contribute to meeting today’s demands but also are laying the ground work to help meet yet to be determined needs.

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

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

501	45%	New and Improved Food Processing Technologies
502	20%	New and Improved Food Products
702	15%	Requirements and Function of Nutrients and Other Food Components
712	20%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

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

1. Situation and priorities

Advanced studies in systems related to food are critical to providing for the sustained and secure flow of food in the producer - processor - distributor - consumer chain. Assuring that all their interests are informed by the best food science available is an expectation of OARDC. Food science research by agricultural experiment stations and companion extension programs are mandatory to meet domestic demand and in provisioning food worldwide. Food science programs directly supports OARDC and OSU Extension's broader goals of production efficiency, economic viability, environmental stewardship, and social acceptability of technologies and products introduced. OARDC addresses direct needs of all their constituency groups by regularly interacting with

them and understanding their needs. Food scientists interact with fellow research and extension units, and with organized groups of producers, processors, distributors, and consumers. Demand for their expertise, processes, and a product is high. Without a growing body of knowledge in this area to create plentiful, high quality, safe products for the food systems, opportunities will be missed and society will not be well served. With a sound body of literature, and a well-developed network of industrial partners, clientele, supporters, and companion agencies and organizations, including OSU Extension, OARDC is well positioned to continue to effect positive change in the science behind food systems. Effective research in this area requires modern laboratory facilities and access to industrial partners' facilities, as well as access to consumers who are the ultimate evaluators of the outcomes. OARDC and OSU Extension have these requirements. Faculty and staff in this program effectively provide the knowledge and technologies needed by stakeholders to inform production, processing, distribution, and consumer choices.

2. Scope of the Program

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

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

1. Assumptions made for the Program

A client oriented research and development program in the food sciences is critical to meeting society's overt and latent demands in this area. As we address problems and needs within our stakeholder communities, the organizations (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: Â•The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues, and warrant allocation of resources. Â•The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food domestically and worldwide. Â•All citizens directly benefit from a safe, secure, and plentiful food supply supported by an advanced research and extension program in this area. Â•These lines of inquiry will provide necessary knowledge to inform human enterprises. Â•Food systems research and education are demands by society needed to meet current and future needs.

2. Ultimate goal(s) of this Program

Food processing research will: - advance the study and improvement of the quality, functionality, and preparation/preservation of food, including relevant methodologies, techniques, and processes. Food products research will: - provide the necessary research to improve and develop new foods; - advance research frontiers in food quality; and - contribute to the understanding and development of functional foods, including nutraceuticals. Food component research will: - grow fundamental knowledge about human nutritional requirements to foster human health and better understanding the relationship between foods consumed and physical and psychological impacts. Food safety research will: - expand knowledge pertaining to pathogens and the human food supply at the genetic, organism specific, food processing, and product distribution levels.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	8.7	0.0
2009	0.0	0.0	8.3	0.0
2010	0.0	0.0	7.9	0.0
2011	0.0	0.0	7.5	0.0
2012	0.0	0.0	7.1	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within the Food Systems planned program are/will be: - online and in print research Ã‚Â–based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - commercialized techniques; - non-commercialized techniques that are distributed to those in need without costs (e.g. enhanced preservation methods for home food canning); - limited number of patents; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Demonstrations • Workshop	• Newsletters

3. Description of targeted audience

Targeted audiences are, but not limited to: - specific individuals or groups who have expressed a need for food processing and product information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - fellow academic units that partner with food scientists to create systems and processes needed to support not only the research, but also the adoption of the research findings by stakeholders - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. persons who engage in home canning of food; - other scientists and scientific groups; - political entities; - extension personnel; - students from pre-school to post doctorate studies; - news organizations; and - business and industrial 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	16	0	0
2009	16	0	0
2010	16	0	0
2011	16	0	0
2012	16	0	0

V(H). State Defined Outputs

1. Output Target

- •peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

  2008 : 16 **2009 :** 16 **2010 :** 16 **2011 :** 16 **2012 :** 16

- •online and print research-based engineering publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

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

- •commercialized food science techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

- •non - commercialized techniques will be tracked as to number of adoptions, and by whom;

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

- •patents by number and who partnered/purchased/commercialized;

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

- •consultations with recipients and in what areas;

  2008 : 16 **2009 :** 16 **2010 :** 16 **2011 :** 18 **2012 :** 20

- •training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training; and

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

- •planning meeting participation as to who (non-OARDC) participated at what level to help take a research project to the next level.

  2008 : 1 **2009 :** 1 **2010 :** 2 **2011 :** 2 **2012 :** 2

V(I). State Defined Outcome

1. Outcome Target

Advance processing techniques, e.g. electrostatic coating, to achieve the desired traits requested by industrial partners, that are manifested in consumer demand studies, or that are novel technologies that may meet latent needs

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

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

1. Outcome Target

Contribute to the advancement of food packaging technologies, e.g. ultrasonic sealing, controlled environment packaging, to the extent that, annually, the risk of contamination due to packaging is reduced measurably.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Participate in the creation of a standardized model and protocols for studying functional foods within five years for the purpose of providing consumers with more informed functional choices that are currently available

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
1	1	1	1	2

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components

1. Outcome Target

Advance the study of stacking functional foods that have a lower than expected societal demand (e.g. soy) with more desirable foods such as tomato products as a means of providing consumers with more access than is currently present.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Expand utilization of products with known functionality or nutraceutical value and give consumers greater informed consumer choice, including the bioavailability of the desire substance in the food, than they presently have.

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
1	1	1	1	2

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Reduce health risk by releasing at least one major study each five years demonstrating nutritional health benefits, e.g. carotenoids and cataracts, anthocyanins and colon cancer or as a substitute for artificial dyes.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components

1. Outcome Target

Reduce health risk by releasing at lest one major study each five years demonstrating negative nutritional side effects, fatty acids and obesity or obesity-related hepatic stealosis or prostate cancer.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components

1. Outcome Target

Advance the understanding of the potential role of trace minerals such as selenium’s protection against breast cancer or copper’s protecting against cardiovascular diseases to that extent society can make science–based choices.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components

1. Outcome Target

Annually document a contribution regarding how to reduce food borne pathogens in the food supply chain.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Expand the knowledge base for contamination detection within packaged foods by developing or refining technologies such as magnetic resonance or infrared spectroscopy that will, within ten years, eliminate the problem.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

- inform the process of collecting, storing, processing, and distributing waste products from plant and animal agriculture to the extent that there are demonstrated gains among multiple outcomes annually

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

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

1. Outcome Target

Processing technology research such as pulse electronic field, high pressure, ohmic heating, and microwave will provide processors with a set of alternatives leading to efficiency and quality gains within economic realities annually.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Processing technology research will improve and optimize equipment and processing of food in such manner as meet consumer demand as or before that demand emerges.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Reduce through research and development the negative processing impacts on physio-chemical or molecular properties of food within varying parameters to make foods more acceptable and higher quality commensurate with demand.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 702 - Requirements and Function of Nutrients and Other Food Components
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes to the extent they impact supply, economic shifts such as to cost of processing equipment or production costs, public policy shifts, regulations, and shifts in demand will be impact outcomes. Food trends/fades, food advertising agendas, new biological and chemical threats, and public nutritional health related issues are also external factors that effect outcomes. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Food scientists employ extensive formative evaluation in product design and testing. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ƒ„‘so what?ƒ„’ Experiment Station reviews, as do stakeholders who consume the food products and those who provide extramural funding, are more demanding as to chronicling impact.

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Structured
- Unstructured
- Case Study

Description

Data collection in this planned program involves both structured, e.g. in taste test, and unstructured input/feedback from stakeholders, support groups, partners such industrial groups, peers, and administrators. Focus group studies, as well as participant observation, are employed. Processors and consumers tend to make up the majority of the study populations. Observations and recording of physical, chemical,social, and biological data are most important to evaluating process and technique development, and consumer preference. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Safety Education Program for Consumers (Extension)

2. Brief summary about Planned Program

Ohio State University Extension offers numerous food safety education opportunities to the citizens of Ohio through offerings of the Family and Consumer Sciences Program. Regardless of the reason why an individual handles food, either as part of their employment or at home, there is an education program specific for their interest and need to learn food safety. County Educators are a reservoir of information on topics like personal hygiene, cooking food adequately, avoiding cross-contamination, keeping food at safe temperatures, and food safety aimed at special groups like families with young children, pregnant women, senior citizens or youth. A number of food safety education programs are planned: 1) Family Nutrition Program (FNP) and Expanded Food and Nutrition Education Program (EFNEP): Ohio State University Extension sponsors two nutrition education programs aimed at low-income individuals and families: The EFNEP and FNP programs. Programs are located in counties throughout the state in areas where poverty is more prevalent. Participants are people who are likely to use federal assistance programs, like the WIC program and Food Stamp program, to supplement their food purchasing power. The aims of the programs are to maximize the benefit of the federal assistance programs with wise purchasing decisions, enhanced nutritional quality, and safer food for the home. Food safety programs reach all of the participants in this program; 2) Safe Food Handling for Occasional Quantity Cooks Program: Churches, civic organizations, and 4H-Clubs are groups that sponsor events where food is prepared and served to large numbers of people. The volunteers who prepare that food may only have household food safety information, but they are operating in a public situation where members of groups at high-risk for foodborne illnesses may be dinning. Volunteer quantity cooks learn how to protect their clients through an extension program to train them in safe food handling procedures; 3) ServSafe: Ohio Food Code requires that a “person-in-charge” who is knowledgeable of food safety to be present at all times in licensed food establishments. Successful completion of the ServSafe manager training program and a passing score on the national certification examination qualifies an individual to meet this regulatory requirement for their business. Sixteen hours of instruction are required to meet certification. The course is certified by the National and Ohio Restaurant Associations and the Ohio Department of Health, 4) Youth Programs: The FNP and EFNEP programs have youth components. Youth will be taught the principals of safe food handling, such as handwashing, adequate cooking, safe food storage, and prevention of cross contamination. The 4H program sponsors many activities for youth who work with livestock. The Youth Beef Quality Assurance program and the Youth Pork Quality Assurance programs have statewide impact aimed at educating youth on the importance of following the 10 Good Production Practices (GPP), procedures for producing a safe and healthy animal, and ethical practices of handling feeds and veterinary pharmaceuticals so that the end-product of animal production is a safe food for human consumption. Youth learn how to properly give medications to their animals, how to read feed tags and medication labels, how to determine medicine withdrawal time periods, and the importance of keeping the food chain “clean.”

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

607	10%	Consumer Economics
711	30%	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	50%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
722	10%	Zoonotic Diseases and Parasites Affecting Humans

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

1. Situation and priorities

Health care costs associated with the care of foodborne illnesses are skyrocketing and the impact is being felt in Ohio, as well as the whole country. It is estimated that an estimated 76 million cases of foodborne illness occur in the United States each year. Ohio Department of Health compiles data on reported cases of infectious disease occurring in Ohio each year. Cases reported in Ohio over a 5 year period show a slight decrease for some pathogens that cause foodborne illnesses (salmonellosis and listeriosis), is about the same for E. coli O157, and increased for campylobacteriosis. The Ohio trends are similar to national trends, with the exception of campylobacteriosis. The Reported cases are low indicators of actual disease, so estimates of actual cases more accurately reflect health care costs. The USDA Economic Research Service (ERS) has derived cost factors for selected foodborne illness pathogens and has estimated a national economic impact for the year 2000 as $6.9 billion. Their figures only account for two types of costs: medical costs and income/productivity losses. The ERS calculates health care cost factors that consider reported cases, estimates of actual incidence and severity of the disease (bloody versus non-bloody diarrhea), and likelihood of hospitalization and/or long-term consequences, like hemolytic uremic syndrome (HUS) associated with Shiga-toxin E.coli infections. Using the per-case cost factors available at the ERS website and the literature, it is possible to calculate the economic impact of foodborne illness in Ohio for selected pathogens. It is estimated that the cost exceed $2M per year, which is a low estimate because cost data is not available for many cases of foodborne illness. Knowing the incidence and cost is only the beginning of solving the foodborne illness problem. The manner in which people handle and prepare food is a major reason why foodborne illness occurs. People must alter their food handling behavior, but they must first have the knowledge and skills that are known to protect food from contamination with pathogens before they have the capacity to change their behavior. Education provides the knowledge and skills Ohio citizens need to reduce incidence of foodborne illness and to reduce the impact on health care costs. The Centers for Disease Control and Prevention acknowledges education as one of several successful interventions that account for improvements in the incidence of foodborne illnesses over the last decade.

2. Scope of the Program

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

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

1. Assumptions made for the Program

The Ohio Food Safety Education Program for Consumers is based on the following assumptions:
1) All curriculum content is based on USDA, FDA or CDC guidance for food safety.
2) All curriculum content has been reviewed by faculty and is based on peer-reviewed research and government guidance.
3) Evaluation methods have been validated and have internal consistency with the target populations for the program
4) Instructors for the ServSafe program have completed mandated training and successfully passed a national certification examination at a level or above that is necessary as classification as an instructor. Re-certification is completed as required.
5) The ServSafe program follows Ohio Food Code requirements and National Restaurant Association criteria
6) All county educators and program assistants receive in-service training to remain current in the food safety content area.

A Food Safety Logic Model has been completed through a strategic plan process. This process included a needs assessment to identify priority areas and was reviewed by stakeholders to ensure relevance of the identified issues. Periodic review and reflection are used to identify areas needing modification and revisions are completed as needed.

2. Ultimate goal(s) of this Program

The Ohio Food Safety Education Program for Consumers has the following aims for long-term outcomes:
1) Adults and youth will experience decreased incidence of disease associated with contamination of food resulting from household food handling practices
2) Communities and Institutions will have established monitoring, evaluation and prevention systems to address community food safety and biosecurity issues

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	7.5	0.0	1.5	0.0
2009	8.0	0.0	2.0	0.0
2010	8.5	0.0	2.5	0.0
2011	9.0	0.0	3.0	0.0
2012	9.5	0.0	3.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1) Conduct food safety education classes with participants in the FNP and EFNEP program
2) Conduct ServSafe classess with food establishment managers and employees
3) Conduct Safe Food Handling for Occasional Quantity Cooks classes with volunteer food preparers
4) Conduct general food safety classes with youth
5) Provide research-based information to consumers through various forms of media, phone calls, fact sheets and web pages

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

Extension	
Direct Methods	**Indirect Methods**
• Group Discussion • Education Class • One-on-One Intervention • Demonstrations • Workshop	• Public Service Announcement • Web sites • Newsletters • TV Media Programs

3. Description of targeted audience

1) Food stamp or food stamp eligible families (FNP)2) Low income families with young children (EFNEP)3) Food establishment managers (ServSafe manager training)4) Food service employees (ServSafe employee training)5) Volunteer food preparers (general population) (OQC)6) Youth (4H)7) General consumers (other formal or informal education)

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	15000	75000	400	2000
2009	16000	80000	500	2500
2010	17000	85000	600	3000
2011	18000	90000	700	3500
2012	19000	95000	800	4000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	2	2	0
2009	3	3	0
2010	4	4	0
2011	5	5	0
2012	6	6	0

V(H). State Defined Outputs

1. Output Target

- Number of single-contact programs offered

2008 : 10 **2009 :** 11 **2010 :** 12 **2011 :** 15 **2012 :** 20

- Number of multiple-contact programs offered

2008 : 100 **2009 :** 1120 **2010 :** 125 **2011 :** 150 **2012 :** 200

- Number of direct-contact participants

2008 : 15400 **2009 :** 16500 **2010 :** 17600 **2011 :** 18700 **2012 :** 19800

- Number of indirect-contact participants

2008 : 77000 **2009 :** 82500 **2010 :** 88000 **2011 :** 93500 **2012 :** 99000

- Number of print materials distributed

2008 : 100000 **2009 :** 102500 **2010 :** 105000 **2011 :** 107500 **2012 :** 110000

- Number of participants completing evaluation forms

2008 : 1540 **2009 :** 1650 **2010 :** 1760 **2011 :** 1870 **2012 :** 1980

V(I). State Defined Outcome

1. Outcome Target

Percentage of adults and youth that demonstrate ability to practice personal hygiene, practice kitchen cleanliness, cook foods adequately, avoid cross-contamination, or keep foods at safe temperatures

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 10 **2009 :** 11 **2010 :** 12 **2011 :** 13 **2012 :** 14

3. Associated Knowledge Area(s)

- 607 - Consumer Economics
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Percentage of adults and youth who indicate an intent to adopt one or more safe food handling practices

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 10 **2009 :** 11 **2010 :** 12 **2011 :** 13 **2012 :** 14

3. Associated Knowledge Area(s)

- 607 - Consumer Economics
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Percentage of adults and youth that demonstrate adoption of practice by handling behaviors associated with practicing personal hygiene, cooking foods adequately, avoiding cross-contamination, or keeping foods at safe temperatures.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
500	600	7	8	9

3. Associated Knowledge Area(s)

- 607 - Consumer Economics
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Adults and youth will show a decrease in the number of illnesses caused by biological contamination of food (such as bacterial, viruses, parasites)

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
1	1	2	2	2

3. Associated Knowledge Area(s)

- 607 - Consumer Economics
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Programming is contingent on the availability of funding, continuation of priority of the issue, and changes in governmental regulations requiring changes in curriculum content.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Retrospective (post program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

All direct-contact programs will be evaluated with Before-After program evaluations with comparison among groups from different programs, counties or other demographic characteristics. Formative evaluation will be on-going to monitor fidelity to program guidelines. Evaluation data will be monitored retrospectively to identify trends of interest or that indicate need for program direction change.

2. Data Collection Methods

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

Description

All curriculums used for Ohio Food Safety Education Programs for Consumers have validated and reliable evaluation instruments that are to be used by all users of the curriculum. Uniform data collection methods allows for assessment of impact across all counties. Additionally, direct observations and portfolio reviews are conducted periodically to ensure fidelity to curriculum and program guidance. The ServSafe curriculum requires competition of a national knowledge test to assess achievement and certification in the program.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food, Agricultural, and Biological Engineering Systems-OARDC Led

2. Brief summary about Planned Program

The research and extension activities of those working in the Food, Agricultural, and Biological Engineering Planned Program underpins the work of all units within the college and has impact from local to the international arena. This line of research is highly ranked nationally and has a history of innovation and leadership. Research related to structures and facilities is heavily focused on greenhouse technologies for the benefit of stakeholders and fellow research units. Additional research in broader areas of structures and facilities is often carried out at the request of OSU Extension, USDA/USDI partners, state partners such Ohio Department of Agriculture, and local entities such as Soil and Water Conservation Districts. Systems engineering and development of equipment and associated methodologies for industry efficiency is an important line of inquiry given the need to reduce costs. Such research seeks to advance the competitiveness of the various industries informed by OARDC research and OSU Extension programming. Research emphasis is also placed on waste disposal for the food and fiber industry. Given Ohio has a high water table and is a state in which the rural urban interface is a point of management concern, waste from animal industries and food processing are primary focal areas. Without proper disposal systems, both risk from regulatory actions and negative public perception, where human and environmental heath issues arise, are issues of concern. Through partnerships within the college, across the university, and throughout the stakeholder community, scientists and staff working in this area have effected change and are most responsive to meeting stated needs. Additionally this line of research is necessary to take advantage of emerging opportunities.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

401	20%	Structures, Facilities, and General Purpose Farm Supplies
402	30%	Engineering Systems and Equipment
403	50%	Waste Disposal, Recycling, and Reuse

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

1. Situation and priorities

Providing for the sustained and secure flow of food and fiber to/from producers, processors, distributors, and consumers, and assuring that their interests are informed by the best engineering science available, are expectations of OARDC. The engineering science behind the food and fiber systems is critical for provisioning of food worldwide. Engineering directly supports OARDC goals of production efficiency, economic viability, environmental stewardship, and social acceptability of practices introduced. OARDC addresses direct needs of all their constituency groups by interacting with them and understanding their needs. Much of engineering's interactions are with fellow research and extension units, and with organized groups of producers, processors, and consumers. Demand for their expertise and the processes and products generated are often in conjunction with or brokered through other academic units or support agencies and organizations. Without a growing body of engineering knowledge to create efficiencies and security in the food systems, opportunities will be missed and society will not be well served. With a long research history, a robust body of literature, and a well-developed network of clientele, supporters and companion agencies and organizations, including OSU Extension, OARDC is well positioned to continue to effect positive change by supporting and advancing food, agricultural and biological engineering sciences. Effective research requires a mixture of laboratory, animal enclosures, plant support facilities, and on-farm research support facilities and engineered processes, to maximize knowledge. Faculty and staff in this program provide research that leads to state of the art systems and facilities. Likewise, they provide the

knowledge and technologies needed by stakeholders to make decisions regarding adoption of state of the art facilities and processes. Emerging threats now demand planning of more advanced facilities such as biosecurity laboratories; systems and facilities engineers are critical to such planning efforts.

2. Scope of the Program

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

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

1. Assumptions made for the Program

A client oriented research and development program by food, agricultural and biological engineers is critical to meeting society's overt and latent demands in this area. As we address problems and needs within our stakeholder communities, the organizations (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues, and warrant allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food, fiber, and environmental services. •All citizens directly or indirectly benefit from a safe, secure, and plentiful food system supply support by state of the art engineering. •These lines of inquiry will provide necessary to inform human enterprises. •Engineering research and education are demands by society needed to meet current and future needs.

2. Ultimate goal(s) of this Program

Engineering structures and facilities research will: - carry out investigations leading to the design of facilities and associated engineered process necessary to support the food, fiber, agricultural, and environmental needs of stakeholders and fellow research units. Engineering systems and equipment research will: - develop enhanced systems to support integrated plant growth systems (e.g. fertigation, monitoring, control) - improve systems to aid small farmers in taking advantage of alternatives to traditional commodity crops, e.g. hydroponics for vegetables and flowers - improve mechanical devices and instrumentation needed by stakeholders such as improved pesticide applicators, including biological pesticides - develop improved systems to aid in meeting new or yet to emerge or novel needs such as bioreactors to treat landfill waste biologically or reduction of axle loads of farm equipment to prevent compaction of agricultural soils. Waste disposal engineering research will: - inform the process of collecting, storing, processing, and distributing waste products from plant and animal agriculture - advance study and modeling of state of the art integrated systems - join with ecological engineers to determine improved strategies for ecological based engineered systems for waste management, e.g. constructed wetlands, multistage farm ditches - carry out studies to determine and aid rural residents, businesses, and industries in utilizing effective onsite waste disposal systems.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	3.8	0.0
2009	0.0	0.0	3.6	0.0
2010	0.0	0.0	3.4	0.0
2011	0.0	0.0	3.2	0.0
2012	0.0	0.0	3.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within this planned program are/will be: - online and in print research –based publications targeted to (a) specific stakeholder groups, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - commercialized techniques; - non-commericalized techniques that are distributed to those in need without costs (e.g. wetland construction techniques); - limited number of patents; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Education Class • Workshop	• Newsletters

3. Description of targeted audience

Targeted audiences are, but not limited to: - specific individuals or groups who have expressed a need for engineering information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at a USDA office, NRCS, Ohio Department of Agriculture, Soil and Water Conservation Districts or a county extension agent; - fellow academic units that rely on engineers to create systems and processes needed to support not only the research, but also the adoption of the research findings by stakeholders - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. recreational large animal owners; - other scientists and scientific groups; - political entities; - extension personnel; - students for pre-school to post doctorate studies; - news organizations; and - business groups such as small town administrators, county commissioners, or commodity 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	7	0	0
2009	7	0	0
2010	7	0	0
2011	7	0	0
2012	7	0	0

V(H). State Defined Outputs

1. Output Target

- •number of graduate students graduated and professional positions held

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

- •online and print research-based engineering publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

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

- •peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article

  2008 :7 **2009 :**7 **2010 :** 7 **2011 :**7 **2012 :**7

- •commercialized engineering techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

- •non - commercialized engineering techniques will be tracked as to number of adoptions, and by whom;

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

- •patents by number and who partnered/purchased/commercialized;

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

- •consultations with recipients and in what areas;

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

- •training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

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

- •planning meeting participation as to who(non-OARDC) participated at what level to help take a research project to the next level.

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

V(I). State Defined Outcome

1. Outcome Target

- provide appropriate facilities and engineering processes commensurate with stakeholders demand to the extent that they have all the information necessary for making adoption decisions

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- provide appropriate facilities and engineering processes commensurate with fellow research units demands necessary to inform their research efforts in a timely manner

2. Outcome Type : Change in Action Outcome Measure

2008 : 1	**2009 :** 0	**2010 :** 0	**2011 :** 1	**2012 :** 2

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- develop enhanced systems to support integrated plant growth systems that will annually result in increased productivity at reduced costs for the industry

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- improve systems to that will permit small farmers to take advantage of alternatives to traditional commodity crops at a rate commensurate with demand, with an expectation of at least three economically successful adoptions per year

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- improve mechanical devices and instrumentation needed by stakeholders to the extent that no less than one patent is awarded within each five year period

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- develop improved systems to aid in meeting new or yet to emerge or novel needs and annually demonstrate progress to at least one stakeholder group or publish a peer-reviewed journal article of the results

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- advance development of state of the art integrated waste management systems to the extent that OARDC and Ohio are viewed as one of the top ten programs/states in this area nationally

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- advance the knowledge of ecological based engineered systems for waste management to the extent within five years that, where cost effective and appropriate, they will be adopted over mechanical systems

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 402 - Engineering Systems and Equipment
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

- aid rural stakeholders through research and extension with onsite waste disposal systems to the extent that within ten years 95% of all rural Ohio onsite waste management systems meet state standards -

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 402 - Engineering Systems and Equipment

- 403 - Waste Disposal, Recycling, and Reuse

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes, economic shifts such as interest rates to borrow money for facilities, public policy shifts, regulations, and shifts in demand will be impact outcomes. Human values and environmental sensitivities to Agriculture processes and facilities of the populace are also external factors that effect outcomes, e.g. engineering of large farms. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ‘so what?’ Experiment Station reviews, as do stakeholders and those who provide extramural funding, are more demanding as to chronicling impact.

2. Data Collection Methods

- Unstructured
- Case Study
- Observation

Description

Data collection in this planned program tends to be unstructured feedback from stakeholders, peers, and administrators, rather than formal pencil and paper evaluation. In the area of community based programs, joint OARDC and extension activities results in more formal surveys that usually address adoption of technologies such as new ditch technologies rather than actual research findings per se. Observations with recorded engineering/other physical, biological, and social data make up the bulk of data collection in this program. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Greenhouse and Floriculture Systems and Marketing (Extension)

2. Brief summary about Planned Program

The Greenhouse and Floriculture Systems and Marketing program works to sustain the greenhouse industry in Ohio by disseminating research-based information through varied means to clientele to improve and enhance production efficiency, increase profitability, and promote business growth and retention. The program intends to help develop a more efficient system of production and commercialization of floriculture crops by prioritizing research needs and by effective communication of current advances to stakeholders.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

102	15%	Soil, Plant, Water, Nutrient Relationships
201	10%	Plant Genome, Genetics, and Genetic Mechanisms
202	5%	Plant Genetic Resources
203	5%	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	10%	Plant Product Quality and Utility (Preharvest)
211	10%	Insects, Mites, and Other Arthropods Affecting Plants
212	15%	Pathogens and Nematodes Affecting Plants
215	10%	Biological Control of Pests Affecting Plants
216	15%	Integrated Pest Management Systems
403	5%	Waste Disposal, Recycling, and Reuse

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

1. Situation and priorities

Floriculture production is one of the fastest growing markets in agriculture. The Ohio greenhouse industry must compete with producers of similar products located within the United States and abroad, specifically from Canada, the Netherlands, South America, and other foreign nations.

To maintain a competitive edge, greenhouse businesses must continually streamline and increase their efficiency of production, develop strong marketing programs, and develop new crops, etc. In addition, concerns about environmental pollution and energy management require the development of efficient systems that adequately and responsibly use the resources at hand. In this regard, the public in general, from floriculture producers to consumers will benefit from the development of more effective systems

that use available resources wisely.
Considerable research efforts in entomology, plant pathology, horticulture crop production, genetics, and agricultural engineering address these current issues to provide accurate and timely research-based information for the industry. Extension specialists and educators link with the industry to assess needs, ensure research projects address relevant issues, and disseminate necessary information in varied formats.

2. Scope of the Program

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

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

1. Assumptions made for the Program

To successfully develop an efficient and effective floriculture and greenhouse program, a team approach must be used. Because of the inherent nature of the problems at hand it is impossible to offer solutions to complex problems facing the industry without the involvement of scientists and extension specialists encompassing different disciplines. Therefore, we would rely on an interdisciplinary approach to identify research and communication needs and to layout the framework under which our program will operate.
The Ohio State University Extension floriculture and greenhouse extension program has traditionally served the state's vast greenhouse industry through applied research efforts and extension programming. State specialists and extension educators have established a strong relationship and positive reputation with industry business owners and professionals, and we foresee that this will continue in the future. We believe the industry will continue to view OSUE as an industry leader and will continue to value our programs and services.

2. Ultimate goal(s) of this Program

The ultimate goal of the greenhouse and floriculture systems program is to maintain or increase the national market share of greenhouse businesses in Ohio. A secondary goal is to ensure that growers maintain profitability and contribute to their local economies.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	6.0	0.0	2.2	0.0
2009	6.0	0.0	2.2	0.0
2010	6.0	0.0	2.2	0.0
2011	6.0	0.0	2.2	0.0
2012	6.0	0.0	2.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The floriculture team will conduct workshops, regional and state-wide seminars and presentations, greenhouse extension tours; develop fact sheets, web based educational materials, curriculum and other educational tools; partner within and outside OSU. Continue partnership with the Ohio greenhouse industry through OFA, An Association of Floriculture Professionals, and Extension personnel from other states such as Michigan and Illinois.

The team will also engage in interdisciplinary research projects that would develop new ideas using funds from local, regional and national agencies. These research projects will produce some of the information we will make available for our stakeholders.

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

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Other 2 (videos, CDs, DVDs) • Demonstrations • Group Discussion • Other 1 (On-site visitations) • Workshop	• Web sites • Other 1 (Journal Articles, scientific pub) • Public Service Announcement • Newsletters • Other 2 (fact sheets)

3. Description of targeted audience

Our target audience is comprised of greenhouse and garden center owners, managers, growers, pesticide applicators, industry representatives, and product manufacturers, consumers, and students.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	450	165000	110	0
2009	475	169000	120	0
2010	500	172000	120	0
2011	500	175000	120	0
2012	500	175000	120	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Visit at least 125 growers each year across the State

2008 : 125 **2009 :** 125 **2010 :** 125 **2011 :** 125 **2012 :** 125

- Reach up to 400 growers through talks and workshops

2008 : 350 **2009 :** 375 **2010 :** 400 **2011 :** 400 **2012 :** 400

- Reach at least 500 growers through Annuals and Mixed Container Trials tours and visits

2008 : 500 **2009 :** 500 **2010 :** 525 **2011 :** 525 **2012 :** 550

- Reach at least 160,000 visitors through the internet and web-based training

2008 : 160000 **2009 :** 160000 **2010 :** 165000 **2011 :** 165000 **2012 :** 170000

- Develop 5 to 6 new greenhouse related fact sheets per year. The team will also revise existing disease and insect ornamental fact sheets. Topics for new facts sheets include ethylene in greenhouses, organic greenhouse production, building a hobby greenhouse, etc.

2008 : 4 **2009 :** 5 **2010 :** 5 **2011 :** 5 **2012 :** 5

V(I). State Defined Outcome

1. Outcome Target

Increase knowledge, skills and aspirations of greenhouse producers in Ohio. These goals will be evaluated by making personal interviews with growers, focus groups, and observations of Extension personnel on grower's production practices.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 300 **2009 :** 325 **2010 :** 325 **2011 :** 350 **2012 :** 350

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

Change the way greenhouse businesses currently operate to adopt research-based information to improve efficiency of production, increase worker safety, decrease environmental pollution. Evaluation will be done as described for short-term outcomes plus statistics at the State and Federal levels.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
150	165	180	200	225

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

Increase Ohio's market share of nationwide floriculture production sales and growers profitability. Evaluation will be done using statistics by USDA-NASS and will be measured by the percent of total wholesale value of states surveyed.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
3	3	4	4	5

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems
- 403 - Waste Disposal, Recycling, and Reuse

1. Outcome Target

Increases in gross income keep pace with inflation. USDA statistics on floriculture sales and rankings. Measured as the wholesale values of reported floriculture crops in millions of dollars.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
172	176	180	185	189

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 216 - Integrated Pest Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Mail
- On-Site
- Unstructured
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Human and Community Resource Development-OARDC Led

2. Brief summary about Planned Program

Agriculture and natural resources industries in Ohio, annually contributing 80 billion dollars to the sate economy, are dependent on investments in human capital. To that end a Human and Community Resource Development Planned Program (HCRD) will collectively guide outcome-based research and associated extension efforts. Programs that advance the understanding of how rural individuals and communities utilize their resources to effectively participate in the agriculture economy is central to understanding the phenomena of human capital. First individuals and families are studied to better grasp how family structures function and what is required for their well-being. Rapid changes in sociological parameters and in technologies influence how individuals, families, and communities organize and behave in order to maintain functionality within the rural economy. Within this program are also foci directed towards program design, administration/management, and the analytical tools needed for evaluation and assessment. Now, more than ever, outcome-based planned programs need the tools and techniques within this program to aid in more rapidly moving programs, technologies, and products into society. A well-educated society is often the key to adoption of these new programs, technologies, and products. To that end agricultural and environmental communication and education are program foci. While this planned program contributes to the broader College of Food, Agricultural, and Environmental Sciences' goals of production efficiency, economic viability, and environmental compatibility, it provides major research and extension leadership in understanding and extending the concept of social acceptability of select agricultural industry 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

802	15%	Human Development and Family Well-Being
803	40%	Sociological and Technological Change Affecting Individuals, Families and Communities
901	10%	Program and Project Design, and Statistics
902	15%	Administration of Projects and Programs
903	20%	Communication, Education, and Information Delivery

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

1. Situation and priorities

To maintain and effective agriculture and natural resource program throughout the state requires investment in the human side of the agricultural equation. With 11 million people in a relative small state, the demand for consumptive and non-consumptive uses of the resources continues to grow. How human capital and their programs are investigated in will greatly influence the long-term outcomes of all planned programs within this Plan of Work. Agriculture experiment stations and extension programs, especially in a state such as Ohio, have a heightened obligation to understand the societal component to meet the multiple outcomes desired by society. Individuals, families, and communities as well as businesses, related agencies, etc. that are involved in the food and fiber industry need the research information that is generated through this program. Programs regarding how people live, work, and function within the rural landscape, as well as how they learn, make decisions and organize for personal and human enterprises are important. Work in these knowledge areas is well-grounded theoretically and extensive applied peer-reviewed literature exists. The challenges lie in applying what is known to new and emerging issues and generating lines of basic research as needed to

ensure that the citizens of Ohio's needs are met and that human issues do not become an impediment to food and fiber production.

2. Scope of the Program

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

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

1. Assumptions made for the Program

A key assumption is that by understanding the social underpinnings (both basic and applied) of how rural individuals and communities are maintained is an important component of agriculture. Knowledge of rural populations, their built environment, how they organize themselves, and the influence of sociological and technological changes are prerequisite to maintaining the human enterprise of agriculture. As the problems and needs within these stakeholder communities are addressed, the organization (OARDC and OSU Extension) becomes better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues and warrant allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food, fiber, and environmental services. •To a greater or lesser extent all citizens at some point in their life directly benefit from this area of inquiry. • These lines of inquiry will provide necessary information to inform human enterprises while protecting individuals, families and communities. This is an important area of study for society and will be utilized for enhanced decision-making by stakeholders and all citizens. •Research and education related to human capital is a demand by society to meet current and future needs. These issues are manifested at some community level and those stakeholders who are most vested will become involved; others involvement will be limited yet they will reap the benefits of a sound basic and applied understanding of these research and extension programs. Base federal funding can be leveraged to support this planned program and to support available scientific staff to carry out the lines of inquiry noted within the knowledge areas for this program

2. Ultimate goal(s) of this Program

Human and community resource development research will: - advance the understanding of human development and family/societal well-being to better understand the role of human capital in agriculture and natural resources. - expand knowledge of how rural populations, their organizations, their built and social environments, and associated technologies, including changes, effect individuals, families, groups, and communities in terms of functionality within the business of agriculture/natural resources. - improve upon program and project design in order to effect outcomes. - study project formulation and administration in order to better understand and promote creativity, productivity, partnerships, collaboration, and proficiency within our own programs. - provide applied insights into multiple dimensions of communication, education and information services to advance the teaching and learning process within agriculture and natural resources.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	5.2	0.0
2009	0.0	0.0	4.9	0.0
2010	0.0	0.0	4.7	0.0
2011	0.0	0.0	4.5	0.0
2012	0.0	0.0	4.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within the Human and Community Resource Development planned program are/will be: - online and in print research Â –based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public; - peer-reviewed journal articles; - non-commercialized techniques that are distributed to those in need without costs; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Demonstrations • Workshop	• Newsletters

3. Description of targeted audience

Targeted audiences are, but not limited to: - specific individuals or groups who have expressed a need for information related to some aspect of human capital that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - fellow academic units that depend on scientists in this program for support information and for approaches/measures; - fellow agencies or support organizations who will not only use the social information but will also extend that information; - populations who have not requested the information but will likely benefit from that information; - other scientists and scientific groups; - political entities; - extension personnel; - students from pre-school to post doctorate studies; - news organizations; and - business and industrial 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	12	0	0
2009	12	0	0
2010	12	0	0
2011	12	0	0
2012	12	0	0

V(H). State Defined Outputs

1. Output Target

- Online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

  2008 :10 **2009 :**10 **2010 :** 15 **2011 :**15 **2012 :**15

- Peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

  2008 :12 **2009 :**12 **2010 :** 12 **2011 :**12 **2012 :**12

- Tracking of non - commercialized techniques such as methods for documenting specific programs and who received those programs and what was the impact;

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

- Documenting of consultations with recipients and in what areas;

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

- Recording of training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training; and

  2008 :5 **2009 :**5 **2010 :** 6 **2011 :**7 **2012 :**7

- Develop and record planning meeting participation as to who (non-OARDC) participated at what level to help take research projects and practices to the next level.

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

- Document number of gradaute studnets gradauted, their research area, and placement in the profession

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

V(I). State Defined Outcome

1. Outcome Target

Advance human capital and sociological studies that will inform strategies for expanding and strengthening the agricultural workforce leading to improved quality and quantity of jobs in rural areas yielding demonstrated economic growth.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

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

- 901 - Program and Project Design, and Statistics

1. Outcome Target

Advance human capital and sociological studies that will inform strategies for strengthening individual and family well-being, and community stability, e.g. grandmother daycare in single head households.

2. Outcome Type : Change in Action Outcome Measure

2008 : 1	**2009 :** 1	**2010 :** 1	**2011 :** 1	**2012 :** 2

3. Associated Knowledge Area(s)

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

1. Outcome Target

Develop a more complete understanding of the relationship between learning style and cognitive abilities of Ohio agricultural students to inform teaching –learning leading to gain score increases within and a better-educated workforce.

2. Outcome Type : Change in Action Outcome Measure

2008 : 1	**2009 :** 1	**2010 :** 1	**2011 :** 2	**2012 :** 2

3. Associated Knowledge Area(s)

- 901 - Program and Project Design, and Statistics
- 903 - Communication, Education, and Information Delivery

1. Outcome Target

Conduct statewide survey research to better understand public attitudes, perceptions, opinions, and behaviors related to select topics in agriculture, annually documenting how those data impact decision-making, e.g. public policy, industrial decisions.

2. Outcome Type : Change in Action Outcome Measure

2008 : 1	**2009 :** 1	**2010 :** 1	**2011 :** 1	**2012 :** 2

3. Associated Knowledge Area(s)

- 901 - Program and Project Design, and Statistics

1. Outcome Target

Investigate shifts in rural-urban interface, land use, immigration, and similar changes to determine if community policies and/or levels of social capital in the community can shape the future of agriculture in face of urbanization pressures.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 901 - Program and Project Design, and Statistics

1. Outcome Target

Improve through research the understanding of and skill development for decision-making by local farmers that will result in improved farm viability and competitiveness at the rural-urban interface.

2. Outcome Type : Change in Action Outcome Measure

2008 : 2	**2009 :** 1	**2010 :** 2	**2011 :** 1	**2012 :** 1

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 901 - Program and Project Design, and Statistics
- 903 - Communication, Education, and Information Delivery

1. Outcome Target

Develop a conceptual framework within five years that will inform programming for developing statewide leadership characteristics, skills, and attitudes in a core of present and future leaders in order to advance a more socially responsible industry.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 901 - Program and Project Design, and Statistics
- 902 - Administration of Projects and Programs
- 903 - Communication, Education, and Information Delivery

1. Outcome Target

Study rural educational systems relative to educational resources, curriculum, instructional delivery, and student learning to the extent necessary to inform decision-makers how to improve rural education systems as requested.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 901 - Program and Project Design, and Statistics
- 903 - Communication, Education, and Information Delivery

1. Outcome Target

Investigate the social implications of structural changes in agriculture and their economic implications, documenting challenges and opportunities for rural individuals, families, groups and communities, including business and government.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 901 - Program and Project Design, and Statistics
- 903 - Communication, Education, and Information Delivery

1. Outcome Target

Investigate project formulation and administration to the extent that the findings help the institution to document gains in creativity, productivity, partnerships, collaboration, and proficiency within five years.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 901 - Program and Project Design, and Statistics
- 902 - Administration of Projects and Programs

1. Outcome Target

Advance understanding of communication, education and information services to show gain scores in the teaching and learning process within related agriculture and natural resources programs.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 901 - Program and Project Design, and Statistics
- 903 - Communication, Education, and Information Delivery

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Weather can play a major role in creating adverse working and living conditions thus impacting people who are the focus of this planned program. Shifts in economy impact all aspects of people,'s lives, psychologically, socially, and physically. Within this program area public monies, and the fluctuations in appropriations of such, have dramatic (both positive and negative) effect on human well-being, as do levels of government regulations. Likewise public policy and the publics,' priorities and perceptions, including popular culture and trends/fads, are major external factors impacting this program. Priority of social science research for limited dollars, and the resulting competition, impact the extent that research can be carried out. Other factors such as migrant populations entering the community and workforce, or new populations who have recently immigrated into the area, and are ill-prepared to sustain themselves socially and monetarily. Learning styles, disabilities, one,'s background/ education, and similar effect how one learns and how they will use any new knowledge gained. Often, individual,'s traits are well inculcated into that individual,'s psyche and behavior and change is slow. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders who are interested in the human and community development research and extension continues to provide strong bases for framing projects that have potential of adoption; with such approach outcomes are more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Scientist in this area, because of their training, are much more focused on evaluation and social science research methodologies than are most faculty, thus the stakeholder input is substantial. Experiment Station reviewers, as do stakeholders with human capital concerns, and those who provide extramural funding, are becoming more demanding as to chronicling impact.

2. Data Collection Methods

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

Description

Data collection in this planned program involves both structured, e.g. systematic sampling, and unstructured input/feedback from stakeholders, support groups, partners such agricultural educators, peers, fellow research units, and administrators. Statewide telephone sampling is a major data gathering technique used. Focus group studies, as well as participant observation, are also employed. Observations and recording of sociological and educational data are most important to evaluating process and technique development. Secondary sources of information such as educational records or community data are utilized Annually, OARDC gathers individual faculty, program, and departmental data, and measures against stated goals and objectives to provide another level for documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Human Health and Safety-OARDC Led

2. Brief summary about Planned Program

Agricultural crops (both plant and animal), their residues, renewable natural resources, and the related manufacturing processes and products, all have human health and safety risks associated with them. This planned program is focused, through aggressive research and extension programming, on reducing safety hazards within our sectors. Emerging and re-emerging zoonotic diseases, for example, are considered an important threat to public health. One group of scientist, in conjunction with a number of other colleges studies the diagnosis, epidemiology, pathogenesis, and control of zoonotic diseases in the animal reservoir and the environment. Development of new sensitive tests for astroviruses facilitates the diagnosis of the disease, epidemiology of the infection and a variety of other studies. Studies are being initiated on emerging animal and plant diseases such as avian influenza viruses, soybean rust, and sudden oak death. While these are emerging diseases that threaten American agriculture, they may also harbor a possible threat to public health. Agriculture leads the nation in occupational unintentional-injury death rates in the U. S. OARDC research tracks the agents, nature of the fatal incident, and demographics. Surveillance of agricultural work related fatalities are necessary to guide both present and future research and outreach initiatives. Surveillance of agricultural work related fatalities provide guidance to direct both present and future research and outreach initiatives. Gathered agricultural fatal injury data are being incorporated into a central database; analyzed on a yearly basis; and trends determined over a five-year period. Data are being posted to a website for use by county extension agents and other interested professionals. Data and emerging trends appear in Ohio research reports. Many Ohioans suffer and sometimes die in response to allergens produced by arthropods, such as dust mites. Asthma and allergy patients need solutions other than drugs. The goal is to develop and test economically efficient, socially acceptable, and environmentally benign strategies for controlling allergen producers. Some 10.3% of adults in Ohio have asthma, which is greater than any other chronic disease. The percentage of children suffering from asthma approaches 15% in some areas with minority and lower income families suffering the most. In the US, about 5,000 people die from asthma annually. In 2001, $760,000,000 was spent to treat asthma (hospitalizations) patients in Ohio and the costs continue to rise at an alarming rate. Because asthma is a chronic disease it is one of the most expensive to manage. Thus, health care organizations are eager for novel developments in reducing or preventing asthma. Our research offers a solution in integrated pest management of allergen producers as more than half of the asthma sufferers are sensitive to indoor allergens, especially dust mites.

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

721	25%	Insects and Other Pests Affecting Humans
722	50%	Zoonotic Diseases and Parasites Affecting Humans
723	25%	Hazards to Human Health and Safety

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

1. Situation and priorities

Providing for human health and safety within our related industries and among producers, processors, distributors, and consumers, using the best science and extension programs available, is an expectation. The science behind advancing human safety has both personal consequences as well as importance to insuring a safe society and protecting the economy from unnecessary losses. OARDC and OSU Extension addresses direct needs of their constituency groups by regularly interacting with them and understanding their needs. Human safety programs directly support OARDC's broader goals of production efficiency, economic viability, environmental stewardship, and social acceptability by better protecting the workforce who produces, and the consumers

who buy, the technologies and products from the agriculture and natural resource sectors. Without a growing body of knowledge to help protect society, opportunities will be missed for social and economic security, and society will not be well served. OARDC and OSU Extension are well positioned to continue to effect positive change in this planned program. Effective research requires a mixture of laboratory, in-home, and on-farm research to maximize knowledge. Emerging threats now demand planning of more advanced facilities such as a biosecurity lab, particularly needed as the threats prevail from terrorists. To meet growing demand of better human safety, scientists continue to make advances in techniques and processes that advance safety from both accidents and from exposure. Due to the complexity of the problem, research and extension programs are integrated in multiple academic departments within our home college. OARDC and OSU Extension support such programs.

2. Scope of the Program

- Integrated Research and Extension
- In-State Research

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

1. Assumptions made for the Program

A client oriented research, development and outreach program in the human health and safety is critical to meeting society's overt and latent needs in this area. As we address problems and needs within our stakeholder communities, the organization (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address safety problems. Other key assumptions are: Â•The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues, and warrant allocation of resources. Â•The understanding of this planned program and how society utilizes and depends on the safety research is key to present and future decision-making in provisioning for society domestically and worldwide. Â•All citizens directly benefit from advanced human safety research and extension programs. Â•These lines of inquiry are necessary to inform human enterprises. Â•Such research and education efforts are demanded by society to meet current and future needs.

2. Ultimate goal(s) of this Program

Human health and safety research will: - advance the study of insects, ticks, and mites to protect human health, including methods of control. Human health and safety research will: - seek to better understand the means and methods related to transmission of zoonotic diseases to humans, including prevention; and - grow fundamental and applied knowledge as to animal reservoirs for zoonotics. Human health and safety research will: - increase the understanding and mitigation of hazards to human health related to accidents, exposure to, and risks within the agriculture and natural resource sectors.

V(E). Planned Program (Inputs)

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

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

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within Human health and safety planned program are/will be: - online and in print research Ã‚Â–based publications targeted to (a) specific stakeholder groups including industrial partners, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public; - peer-reviewed journal articles; - commercialized techniques; - non-commercialized techniques that are distributed to those in need without costs; - limited number of patents; - consultation

services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research

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

Extension	
Direct Methods	**Indirect Methods**
• Workshop • Demonstrations • Education Class	• Newsletters

3. Description of targeted audience

Targeted audiences are, but are not limited to: - specific individuals or groups who have expressed a need for health and safety information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature; - fellow academic units that depend on scientists in this program for support information and for new health and safety technologies and approaches/measures - fellow agencies or support organizations who will not only use the information but will also extend that information; - populations who have not requested the information but will likely benefit from that information; - other scientists and scientific groups; - political entities; - extension personnel; - students from pre-school to post doctorate studies; - news organizations; and - business and industrial 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
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	2	0	0
2009	3	0	0
2010	4	0	0
2011	3	0	0
2012	3	0	0

V(H). State Defined Outputs

1. Output Target

- Non - commercialized techniques such as for farm safety will be tracked as to number of adoptions, and by whom;

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

- Document consultations with recipients and in what areas;

  2008 : 5 **2009 :** 6 **2010 :** 6 **2011 :** 7 **2012 :** 6

- Provide and document training programs by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

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

- Online and print research-based publications will be tracked in terms of number of ‘hits’ on the web site and the numbers and sites for distribution of printed materials;

  2008 : 3 **2009 :** 4 **2010 :** 4 **2011 :** 5 **2012 :** 5

- Peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

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

- Commercialized safety related techniques and processes would be tracked as to purchaser, number of adoptions, and by whom;

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

- Patents by number and who partnered/purchased/commercialized will be documented.

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

- Planning meeting participation as to who (non-OARDC) participated at what level to help take research projects and practices to the next level.

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

- The number of graduate students graduated and professional positions they hold willl be tracked and reported.

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

V(I). State Defined Outcome

1. Outcome Target

Annually release studies on insects, ticks, and mites to protect human health that will provide a set of alternatives leading to

health gains with lowered risks, and within economic realities, for the affected populations.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Advance the understanding of means and methods related to transmission of zoonotic diseases to humans, including prevention, that meets consumer demand/health threat, as or before such emerges.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Reduce through research, development, and outreach the negative impact of farm-, recreation-, or industry-related accidents within agriculture and natural resources.

2. Outcome Type : Change in Action Outcome Measure

2008 : 0	**2009 :** 1	**2010 :** 2	**2011 :** 3	**2012 :** 4

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety

1. Outcome Target

Reduce through research, development, and outreach the exposure to biohazards, pathogens, and similar to the extent that annually such are reduced per capita with an overall time and economic savings to those who may be affected.

2. Outcome Type : Change in Action Outcome Measure

2008 : 0	**2009 :** 0	**2010 :** 1	**2011 :** 1	**2012 :** 2

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety

1. Outcome Target

Reduce health risk by releasing at least one major study each five years demonstrating techniques, procedures, or products that lessen the chance of contacting, or the impact if contacted, zoonotic diseases.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

1. Outcome Target

Reduce safety risk by releasing at least one major study to either manufacturers and/ or consumers that will reduce or prevent work or play related accidents every three years.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 723 - Hazards to Human Health and Safety

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Certain weather conditions play a major role in creating unsafe working conditions and for encouraging the growth and spread of pests and diseases that can be transmitted to humans. Shifts in economy can impact manufacturers abilities to attend to or government ƒ„'s responsiveness to human health and safety. Within this program area public monies, and the fluctuations in appropriations of such, have dramatic effect on human safety, as do levels of regulations. Likewise public policy and the publics ƒ„' priorities and perceptions, especially regarding risks, are major external factors impacting this program. Priority of this research for limited dollars and the resulting competition impact the extent of research that can be carried out. Other factor is migrant populations entering the workforce without fully understanding the risks. New populations who have recently immigrated into the area, often do not understand risk and are subjected to injury or disease because of uninformed choices. Even items such safety equipment or safety protocols as to acceptable levels of public exposure to certain zoonotic diseases are major external factors. Likewise the public ƒ„'s willingness to learn safety procedures in terms of equipment, pests, or zoonotic disease threats are factors that are beyond the researchers ƒ„' control. Often times formative evaluation though can lessen the impact of externalities by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders of health and safety research continues to provide strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Analysis of secondary data, e.g. accident data, medical records, is a primary source of data. Also effective analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ƒ„'so what?ƒ„' Experiment Station reviews, as do stakeholders with health and safety concerns, and those who provide extramural funding, are becoming more demanding as to chronicling impact.

2. Data Collection Methods

- Sampling
- Structured
- Unstructured
- Case Study
- Observation
- Other (field tests of equipment)

Description

Data collection in this planned program involves both structured, e.g. systematic sampling, and unstructured input/feedback from stakeholders, support groups, partners such industrial groups, peers, and administrators. Focus group studies, as well as case studies, are employed. Manufacturers and consumers tend to make up the majority of the study populations. Observations and recording of physical, chemical, sociological, and biological data are most important to evaluating process and technique development. Medical records are key secondary sources of information when they can be accessed. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Land Use (Extension)

2. Brief summary about Planned Program

The mission of this program is to enable Ohio State University Extension, local and state government and communities address land use issues with information, educational programs and potential strategies. To help meet this goal the team has developed Fact Sheets, maintains a speakers bureau, holds an annual conference and has established a web site with information on various land use topics

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

608	100%	Community Resource Planning and Development

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

1. Situation and priorities

A recent research project conducted by OSU Extension CD Educators and Specialists indicated that 62% of the Townships in Ohio do not have a comprehensive land use plan in place while a majority of the development that is occurring throughout Ohio is occurring at the township level.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

The assumption is that as a result of education about best practices, stakeholders will be better informed when engaged in land use planning decisions. The results will provide a better quality of life for all Ohioans.

2. Ultimate goal(s) of this Program

Better managed land use patterns throughout Ohio.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	3.8	0.0	0.0	0.0
2009	3.8	0.0	0.0	0.0
2010	3.8	0.0	0.0	0.0
2011	3.8	0.0	0.0	0.0
2012	3.8	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Major educational areas of the Land Use Team Land Use Tools Sustainable Development AEPP Program Estate Planning Farm Land Preservation -Workshops -Team and committee meetings -Develop planning documents -Develop curriculum modules -Develop Fact sheets on land use issues -Develop Course curriculum. -Upgraded interactive website. -Maintain existing partnerships with the elected and appointed public officials throughout the state.

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

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

3. Description of targeted audience

Local appointed and elected public officials throughout Ohio.
Citizens
Planning Organizations.
Extension Educators
Extension personnel

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	50	1800	0	0
2009	50	1800	0	0
2010	50	1800	0	0
2011	50	1800	0	0
2012	50	1800	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- # of participants at workshops

  2008 :150 **2009 :**150 **2010 :** 150 **2011 :**150 **2012 :**150

- # of committee meetings

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

- # of planning documents produced

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

- # of curricula

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

- # of fact sheets

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

- # of hits on upgraded website

  2008 :10000 **2009 :**10000 **2010 :** 10000 **2011 :**10000 **2012 :**10000

- Partnerships maintained/developed with officials

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

V(I). State Defined Outcome

1. Outcome Target

Increase in Knowledge of Citizens of Ohio about land use issues

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
500	500	500	500	500

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Communities engaging in the development or update of a Land Use Plan.

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
4	4	4	4	4

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

Implementation of Policies by government officials related to land use

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
2	2	2	2	2

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Security Issues; demographic cha)

Description

Natural Disasters- Tornados and floods, ice storms and the respective impacts on Land Use Economy and Population Changes and Growth – Create impacts on Land Use changes Appropriation and Public Policy Changes- impacts choices available for land use issue solutions Government Regulations-State and Federal mandates effecting local policy and budgets

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- On-Site

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Livestock Environmental Assurance and Mortality Management (Extension)

2. Brief summary about Planned Program

Systematic development, implementation, and assessment of educational materials and programs based on scientific research that support the integration of livestock production and the environment in a manner that supports economic viability, environmental sustainability, and individual as well as community well-being.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

102	5%	Soil, Plant, Water, Nutrient Relationships
112	10%	Watershed Protection and Management
133	20%	Pollution Prevention and Mitigation
141	15%	Air Resource Protection and Management
302	5%	Nutrient Utilization in Animals
307	25%	Animal Management Systems
401	5%	Structures, Facilities, and General Purpose Farm Supplies
404	5%	Instrumentation and Control Systems
405	5%	Drainage and Irrigation Systems and Facilities
601	5%	Economics of Agricultural Production and Farm Management

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

1. Situation and priorities

Livestock operations, regardless of size or specie(s), are an economically important contributor to the economy of Ohio and the nation. Economic and geographic facts have led to expansion of the integrated model and led to consolidation trends that have reduced the number and increased the size of food-animal production units across the country. In effect, these trends have led to many challenges facing livestock production entities as they strive to succeed in a diverse, ever-changing society. Environmental challenges facing the livestock entities must focus both on the production environment (facility design, feeding programs and processes, production management techniques, and others) as well as the land, air, and community resources influenced by the system (land resource availability, nutrient management technologies, emissions control opportunities, neighbor and community relations, water quality assessment and protection practices, site selection, site development, and others). The Livestock Environmental Assurance Program was developed in Ohio through the interaction of industry stakeholders including producers,

industry, academia, government, and citizens for the purpose of addressing the environmental issues through science-based education. Ohio's LEAP program has mimicked national programs with a similar focus on awareness and education and has evolved to include new module that further refine and define best management practices that will enhance the effectiveness of environmental practices on the farms. In addition, in response to limitations on disposal options for livestock mortality, a Mortality Composting Certification Course has been in place for 10 years in Ohio as the basis for effective management of mortality on farms. The Mortality Compost Certification Program and materials developed within OSU have been used extensively throughout the United States as the template for effective mortality management. The focus and future direction of LEAP and Mortality Composting will evolve to address stakeholder-derived and governmental regulation dictated enterprise needs. Future modifications to these programs will clearly involve site selection, neighbor relations, air emissions, waste management and handling, and other, yet to be identified needs. The POW proposed will outline a strategy to meet these needs.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Assumptions that drive our interest in, desire to meet, and responsibility toward providing high-quality, research-based educational materials and programs that will change practices, attitudes, and outcomes are outlined in bullet form below: • Livestock production will continue to be a valuable part of both the agricultural output of the state of Ohio and the overall demographic that influences the quality of life for the citizens of Ohio and neighboring states. • Livestock enterprises will face continued local, state, and national regulation or threats of regulation that are similar to other business or industrial operations. In response to this challenge, science-based standards and access to high quality education materials and workshops will be necessary to achieve compliance with environmental challenges. • The existing Extension and Research system can, provided adequate monetary and personnel allocations, provide both the livestock industries and the citizens of Ohio with information that may help meet the environmental challenges. • Stakeholders in each livestock/food producing species continually seek information and ask for additional technical support in meeting environmental challenges.

2. Ultimate goal(s) of this Program

Research and Extension education efforts will protect the environment from degradation due to livestock production. Uniform access to and implementation of best management practices and or technologies that prevent degradation are the basis for achieving this goal.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	3.0	0.0	2.0	0.0
2009	3.0	0.0	3.0	0.0
2010	3.0	0.0	3.0	0.0
2011	4.0	0.0	3.0	0.0
2012	3.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Communication and information exchange with key food-animal production entities for the purpose of refinement of educational programming and targeted programs• Development of production site planning information to avoid or minimize future conflict.•

Provide on-farm environmental assessment for the purpose of review of the production site, facilities within the site, and general extraneous conditions that influence environmental and neighbor/community relations• Expand and refine Mortality Composting Materials to address identified needs and challenges observed through current monitoring processes.• Enhance program delivery to improve access to stakeholders and improve efficiency of staff time and effort while improving materials offered.• Where applicable, develop species specific Standard Operating Procedures, manuals, materials, and training.• Develop courses/workshops that have direct application and on-site training capabilities to enhance environmental compliance.

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

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Group Discussion • One-on-One Intervention • Other 1 (survey instrument) • Workshop • Demonstrations	• Newsletters

3. Description of targeted audience

Livestock production entities regardless of size, scope or species; Local citizens as they request information and education relevant to livestock production and the environment; Lending institutions, equipment suppliers, builders, academia, and other parties involved in the business of livestock production.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	200	0	0	0
2009	200	0	0	0
2010	200	0	0	0
2011	200	0	0	0
2012	200	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Standard evaluation of materials and workshops

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

- Database of individuals contacted with appropriate demographics

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

- Materials that enhance the ability to improve environmental compliance including factsheet-type, multi-media type, manuals, and or books that allow the learner to access information in the most appropriate methods and turn the knowledge they gain into application within the enterprise in an effort to enhance environmental compliance.

2008 :2 **2009 :**2 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

Determine detection, monitoring, and sampling systems that reliably indicate the impact and value of livestock enterprises in concert with the environment. Once the system(s) are identified to assess impact, programs and education materials targeted toward the key areas of focus will be developed, distributed, and training programs conducted.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation
- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies

1. Outcome Target

Implementation and increased use of developed, science-based systems models and technology.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 112 - Watershed Protection and Management

- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management
- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 404 - Instrumentation and Control Systems
- 405 - Drainage and Irrigation Systems and Facilities

1. Outcome Target

Protect the environment from degradation due to livestock production.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation
- 141 - Air Resource Protection and Management
- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 404 - Instrumentation and Control Systems
- 405 - Drainage and Irrigation Systems and Facilities

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

The current certification and training process for livestock mortality composting will continue into the future as a means of direct contact with respective producer audiences. Continual revision of materials and supporting documentation and transfer of these materials to previous and current persons involved in mortality composting will assure long-term compliance and improve environmental acceptability. Documentation of response may be assessed through review of historic and current mortality

management citation records.

2. Data Collection Methods

- Sampling
- Mail

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Managed Forage and Grazing (Extension)

2. Brief summary about Planned Program

An interdisciplinary team will develop and deliver an educational program designed to increase adoption of the managed grazing systems to improve the sustainability of forage-based farms in Ohio. A variety of learning activities will be used to deliver this curriculum to forage and livestock producers of Ohio, extension educators and Natural Resource Conservation Service grassland specialists, technical service advisors and providers.

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

205	50%	Plant Management Systems
307	50%	Animal Management Systems

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

1. Situation and priorities

There are nearly 3.5 million acres of forage and grazing lands in Ohio. Improved forage and grazing management practices have been shown to improve profitability of small farms while enhancing and protecting soil and water quality. There is a need and desire among Ohio producers to increase the implementation of improved forage and grazing management practices. Forces driving the interest in forage and grazing management improvements include government regulatory policies, desire among producers to improve profitability, and young people looking for ways to enter agriculture in an economically viable manner.

2. Scope of the Program

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

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

1. Assumptions made for the Program

The foundational concepts to be delivered by this planned program are based on a long history of research in forage and grazing management and the experience of team members. The team has a 10-year history of working with forage and livestock producers to improve management, and we have documented past successes in increasing adoption of improved practices that lead to enhanced profitability. Government program incentives are also driving increased interest in adoption of improved grazing management practices for soil and water conservation.

2. Ultimate goal(s) of this Program

To improve sustainability of Ohio forage and livestock producers through efficiently producing and utilizing of forage-based resources in an environmentally compatible, profitable, and socially acceptable manner.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	5.0	0.0	1.0	0.0
2009	5.0	0.0	1.0	0.0
2010	5.0	0.0	1.0	0.0
2011	5.0	0.0	1.0	0.0
2012	5.0	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Curriculum will be developed and delivered to teach and facilitate adoption of the principles of management intensive grazing. A variety of learning activities will be used to deliver this curriculum, including intensive workshops with outdoor hands-on activities, major conferences, research and demonstrations, development of individualized grazing plans, newsletters, articles in popular press, web-based educational resources, and TV and media programs.

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

Extension	
Direct Methods	Indirect Methods
• Workshop • Education Class • Other 1 (DVD's, power point presentations) • Other 2 (Conferences) • Demonstrations • One-on-One Intervention • Group Discussion	• TV Media Programs • Web sites • Newsletters

3. Description of targeted audience

Forage and livestock producers of Ohio; Extension Educators and Natural Resource Conservation Service grassland specialists; technical service advisors and providers

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	1200	100000	45	1000
2009	1200	100000	45	1000
2010	1200	100000	45	1000
2011	1200	100000	45	1000
2012	1200	100000	45	1000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Intensive workshops and educational presentations: Single and multiple session workshops will be delivered to teach concepts and practices on forage production, pasture management, and forages for horses. Approximately 6 to 8 workshops will be held each year in different locations throughout Ohio. These workshops often include hands-on learning activities. These workshops will be managed by the Integrated Forage Management Team of OSU Extension.

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

- Research and demonstrations: Applied research and demonstrations on forage and grazing lands management will be conducted each year. These include annual and multi-year evaluations of forage varieties for productivity and persistence in Ohio. Results and research summaries will be disseminated through the Ohio Forage Network website and through media outlets. In addition, a funded research project will be conducted in SE Ohio aimed at increasing farm profitability and productivity of grazing beef and dairy farms while maintaining minimum environmental impacts. Over the next five years we will develop new grazing management tools that will be validated on six monitor farms.

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

- Development of individualized grazing plans: Plans will be developed for approximately 30 producers annually, which will include paddock layout and design, water system development plans, seasonal forage inventory and feed budgeting management plans. This activity will be managed by the Integrated Forage Management Team of OSU Extension.

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

- Newsletter: These will be the primary methods used for written communication to out clientele concerning management of forages and grazing lands. We will produce a quarterly electronic and hardcopy newsletter that will also be posted on the web. While extension fact sheets are produced, they are no longer the primary method of delivering information. This activity will be managed by the Co-chairs the Integrated Forage Management Team of OSU Extension.

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

- Articles in popular press: Educational articles will be produced for biweekly column in Farm & Dairy magazine (All About Grazing) and approximately six articles in Ohio's Country Journal on an annual basis. In addition, results from the Ohio Forage Performance Trials will be published annually in Ohio's Country Journal. This activity will be managed by the Integrated Forage Management Team of OSU Extension.

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

- Web-based educational resources: The Integrated Forage Management Team of OSU Extension will manage, maintain, and

publish new information on the Ohio Forage Network (http://forages.osu.edu). Resources available through this website include contact information for forage specialists, fact sheets and bulletins, research summaries, and software products. The quarterly newsletter produced by the team will be posted on this website.

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

- TV and media programs: Approximately 2 TV programs and 6 to 10 radio programs will be produced on an annual basis on topics related to forage and grazing lands management.. This activity will be managed by members of the Integrated Forage Management Team of OSU Extension.

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

V(I). State Defined Outcome

1. Outcome Target

Managed grazing plans will be developed for 10,000 acres annually and improved grazing management will be adopted on 6,000 acres annually.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 307 - Animal Management Systems

1. Outcome Target

More Ohio forage-based farms will become economically and environmentally sustainable.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 307 - Animal Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Observation

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Management & Sustainability of Forest Resources (Extension)

2. Brief summary about Planned Program

The primary program audience is woodland owners but the program also works with the forest products industry in the areas of best management practices and economic efficiencies of harvesting practices. Urban forest environments come into play when dealing with invasive pest issues such as Emerald Ash Borer. Through the Ohio Woodland Stewards Program woodland owners are provided learning opportunities across the state. This is accomplished by offering over a dozen classes covering a wide variety of topics of interest to woodland owners, a web site and a newsletter (Ohio Woodlands, Watersheds & Wildlife) that is produced 3 times a year. Other program components include working with natural resource professionals in Indiana, Michigan and Kentucky on providing woodland owner educational opportunities and in-service training for natural resource professionals.

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

123	30%	Management and Sustainability of Forest Resources
124	10%	Urban Forestry
125	10%	Agroforestry
133	10%	Pollution Prevention and Mitigation
135	10%	Aquatic and Terrestrial Wildlife
136	5%	Conservation of Biological Diversity
511	15%	New and Improved Non-Food Products and Processes
605	10%	Natural Resource and Environmental Economics

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

1. Situation and priorities

Outreach efforts focus on providing innovative educational opportunities to• over 400,000 private woodland owners who control over 6 million acres of Ohio forests, who are generally poorly equipped to make informed forest management decisions which frequently results in unfulfilled ownership objectives and/or undesired impacts from shifting land use, exotic pests, and poor harvesting practices. Uninformed forest management decisions not only negatively impact the woodland owner, but can have long-term negative impacts on Ohio’s natural environment and its 15 billion dollar forest industry.• the over 600 Ohio commercial maple producers and 1000 Ohio commercial Christmas tree growers who receive all or part of their annual incomes from their forest-based enterprise.

2. Scope of the Program

- Integrated Research and Extension
- Multistate 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

• Most woodland owners want to be good stewards of their woodland resource • Forest industry would like to improve practices to increase revenues and improve the public perception of the industry • Due to environmental and economical constraints, forests are most often the highest and best use of the land resource. • Participants in these programs are open to changing behaviors and methodology based on knowledge gained through these programs.

2. Ultimate goal(s) of this Program

The ultimate goal of the program is to sustain and improve Ohio's forest resources.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	4.3	0.0	1.3	0.0
2009	3.5	0.0	1.3	0.0
2010	3.5	0.0	1.2	0.0
2011	3.5	0.0	1.2	0.0
2012	3.5	0.0	1.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Develop curriculum • Conduct workshops • Develop fact sheets and bulletins • Produce newsletters • Provide web site for information and workshop registration • Conduct research in support of programming efforts • Partnering with other natural resource agencies and organizations to extend our impact • Conduct in-service workshops for professionals

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 • Demonstrations • Workshop	• Web sites • Newsletters • Public Service Announcement • Other 1 (Publication and journal articles)

3. Description of targeted audience

Woodland owners/landowners – those individuals who own forest land or other natural areas and who are interested in learning more about their woodlands and how to manage them to best meet their needs Natural resource professionals – foresters from state agencies and private industry, wildlife managers from state agencies, soil and water conservation district employees, any

other group that works in the natural resource field Forest industry – those individuals/companies/enterprises who utilize forest resources in the production of a marketable product including paper mills, saw mills, loggers, timber buyers, consulting foresters, Christmas tree producers, maple product producers, etc. Homeowners – those homeowners interested in their tree resource around the home.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	6000	33000	0	0
2009	6250	38000	0	0
2010	6500	43000	0	0
2011	7000	48000	0	0
2012	7000	48000	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Develop curriculum – We plan to continually update the curriculum to meet the changing needs of our clientele. As an example, curriculum development is currently in process for programs addressing ways to best utilize ash trees as they continue to die from Emerald Ash Borer. This curriculum could be used by homeowners and forester alike. Another example is the development of a program to meet the future continuing education requirements for those enrolled in the forestry tax programs in Ohio.

  2008 : 15 **2009 :** 15 **2010 :** 15 **2011 :** 15 **2012 :** 15

- Conduct workshops – Workshops will be developed and offered on an as needed basis to meet either professional educational needs or woodland owner needs. Typically we try to offer a wide variety, both in content and location around the state.

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

- Develop fact sheets and bulletins – Each year we work through a list of what needs to be done. Emerald Ash Borer has forced

some items onto the back burner and we will have to see about getting some of those items back on track.

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

- Produce newsletters – The Ohio Woodland Stewards program produces the Ohio Woodland, Watersheds and Wildlife newsletter which is offered in a high quality paper and electronic format, 3 times annually.

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

- Provide web site for information dissemination and workshop registration – The Ohio Woodland Stewards website provides fact sheet and bulletin informational links along with electronic versions of the newsletter, programming calendar, links to supplemental websites, and online class and workshop registration. Visitors to the site are tracked according to the web site server log

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

- Conduct research in support of programming efforts – research focusing on the impact of woodland management practices on the character of the resulting woodlands, the impact of EAB, the management and impact of selected wildlife species, and Christmas tree and maple production practices that increase the efficiency and economic returns of these enterprises.

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

- Partnering with other natural resource agencies and organizations to extend our impact – Working closely with Ohio Department of Natural Resources, Division of Forestry, Wildlife and Soil and Water Conservation, the Ohio Forestry Association, and a variety of other Federal, State, and local agencies and organizations and commodity associations to more increase impact of educational programming.

  2008 :15 **2009 :**15 **2010 :** 15 **2011 :**15 **2012 :**15

- Conduct in-service workshops for professionals – These workshop topics are generated year to year at the request of several committees and organizations (forestry committee of the Ohio Federation of Soil & Water Conservation Districts etc.) The number will vary from year to year but typically there is at least one or two.

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

V(I). State Defined Outcome

1. Outcome Target

A major goal is to provide information to our clients enabling them to make informed decisions concerning the management of their natural resources and, where approprite, connect them with professionals who can provide individual assistance.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 125 - Agroforestry
- 133 - Pollution Prevention and Mitigation
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 511 - New and Improved Non-Food Products and Processes
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

An increase in the number of natural resource managers developing a management plan for their woodland or woodland enterprise.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
150	150	150	150	150

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 125 - Agroforestry
- 133 - Pollution Prevention and Mitigation
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 511 - New and Improved Non-Food Products and Processes
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

An increase in the number of woodland owners seeking professional assistance when marketing timber, an increase in the number of individuals receiving information on which to base management decisions concerning their forest resource based enterprise.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
400	400	400	400	400

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 125 - Agroforestry
- 133 - Pollution Prevention and Mitigation
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 511 - New and Improved Non-Food Products and Processes
- 605 - Natural Resource and Environmental Economics

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Any of the above identified external factors can have an unpredicted impact on the management of forest resources and on programming designed to provide information and assistance with that management. Programming must remain dynamic, and must be responsive to such factors. Recent examples of this in Ohio include response to wide spread ice damage in the forests of southern and central Ohio, and major program modification and expansion in response to Ohio's infestation by emerald ash borer.

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

1. Evaluation Studies Planned

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

Description

When resources are available we would like to do a retrospective survey of clients who have recently attended our Ohio Woodland Stewards programs. This would help us to find out how or programming has impacted woodland management plans and utilization of professionals for assistance with timber harvests and other forest management activities.

2. Data Collection Methods

- Whole population
- On-Site
- Mail

Description

Post-program evaluations are performed with on-site, "whole population" questionnaires. The retrospective survey will be performed with mail questionnaires soliciting various inputs form "whole populations" or sample populations.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and Environmental Systems-OARDC Led

2. Brief summary about Planned Program

Natural resource and environmental systems research reported under HATCH focus on managing and sustaining forest resources for the citizens of Ohio; the state is one-third forested. Private landowners hold most of the forest thus research and outreach are private-owner centered. Key to managing the forest and other natural systems for a sustained flow of environmental goods and services requires an understanding of how to conserve the diversity with particular emphasis on, and strengths in, aquatic and terrestrial wildlife ecology. Research programs in this planned program focus both on the individual components as defined in the selected knowledge areas and the collective community and landscape scale functions. Ohio's landscapes are managed, primarily in small tracks under fairly intense population or production pressures. Thus the understanding of the science of managing in such complex landscapes is critical to providing a sound resource base to meet human and wildlife needs, while seeking to protect Ohio's biological diversity, some of which has regional and national importance, e.g. migratory route for song birds, hawks, ducks, and geese. The latter two are important to the hunting industry, while the songbirds and hawks are important non-game species and contribute to Ohio's tourism industry. Forest sustainability requires an understanding of biology, silviculture, management and modeling, and forest products, both from forest science and horticultural science perspectives. These activities include the conservation of biological diversity through on-site efforts to protect resources, as well as seed bank and germ plasm programs. In partnership with Ohio Department of Natural Resources and USDA, and other partners at the federal, state and local levels, OARDC advances studies in traditional fisheries and wildlife programs for game and non-game programs, as well as conservation biology program for protection and restoration of natural systems. Human- wildlife interactions are studied. A companion OSU Extension wildlife program is available to communicate findings and provide educational programs.

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

123	25%	Management and Sustainability of Forest Resources
135	60%	Aquatic and Terrestrial Wildlife
136	15%	Conservation of Biological Diversity

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

1. Situation and priorities

Society demands natural resources based commodities and environmental services, particularly in terms of forest-related goods and services, and especially in the area of fish and wildlife resources. With 11 million people in a relative small state, the demand for consumptive and non-consumptive uses of the resources continues to grow. As travel costs continue to remain high, the demand for local resource utilization is expected to increase demand for agriculture experiment stations research in this area and companion extension programming. In a highly urbanized state such as Ohio, the organization has a heightened obligation to meet this demand and to aid in conserving resources, as well as generating economic return. Individuals and families, as well as companion agencies, involved in the food and fiber production need the research information that is generated through this program as do various sector of the public including environmental organizations, hunters, fishers, birdwatchers, hikers, etc. Communities, both rural and urban, need both the conservation biology and management knowledge to protect and wisely use their natural resource base. All environmental resources are issues of concern from both a regulatory and an aesthetic point of view. Conflicts do occur over differing human values, e.g. dove hunting. Work in these knowledge areas is well-grounded theoretically and extensive applied peer-reviewed literature exists. OARDC has sponsored efforts in this program since the late 1800s. The

challenges lie in applying what is known to new and emerging issues and generating lines of basic research as needed to ensure that the citizens' needs are met and that related issues do not become and impediment to food and fiber production.

2. Scope of the Program

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

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

1. Assumptions made for the Program

A key assumption is that by understanding the scientific underpinnings (both basic and applied) of how forests and their associated diversity are maintained and managed, and how terrestrial and aquatic resources are conserved and used appropriately without treating the resource base, society's overt and latent demands can be met in this area. As we address problems and needs within our stakeholder communities, the organizations (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues and warrant allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food, fiber, and environmental services. •To a greater or lesser extent all citizens at some point in their life directly benefit from this area of inquiry. All citizens indirectly benefit from the protection and wise use of these environmental resources. • These lines of inquiry will provide necessary information to inform human enterprises while protecting environmental services. This is an important area of study for society and will be utilized for enhanced decision-making by stakeholders and all citizens. •Research and education related to conservation of these resources, and landscape-scale best management practices that are being adopted, is a demand by society to meet current and future needs. These issues are manifested at some community level and those stakeholders who are most vested will become involved; others involvement will be limited yet they will reap the benefits of a sound basic and applied resource understanding of these research and extension programs. Base federal funding can be leveraged to support this planned program to support available scientific staff to carry out the lines of inquiry noted within the knowledge areas for this program.

2. Ultimate goal(s) of this Program

Goals are: •Forest resource related research to -advance the understanding of forest biology and ecology commensurate with the demands in Ohio and the region, as well as silvicultural techniques, horticultural techniques, forest systems modeling, and wood manufacturing. - Expand knowledge of how to use this resource base while conserving diversity and expanding environmental services such as clean air and water from forests. - enhance overall management for greater economic and environmental gains. •Conservation biology research to - support USDA, USDI, ODNR, and local government/stakeholder initiatives to more fully understand the biology of Ohio landscapes and determine and implement best practices/allocation strategies for the resources. •Aquatic and terrestrial wildlife research to - support federal, state, and local agendas, including all those who are stakeholders and beneficiaries thereof, in seeking to conserve and utilize these aquatic and terrestrial wildlife resources in a sustainable manner while managing associated conflicts. - engage in scientific inquiries at the genetic, species, community, and landscape scale levels to investigate biological and physical components, including influences of human enterprises, for the purpose of meeting wildlife needs in Ohio and the region. - Study conflicts leading to negative human wildlife interface for the purpose of mitigating negative effects on wildlife population and on human enterprises, e.g. wildlife depredation. •Integrated natural resources and environmental systems research to - understand the system in such manner as to inform both on-site (e.g. community, watershed) and landscape scale decisions necessary to meet individual stakeholder groups', and societal, needs. - Support international, national, state and local agendas for advancing natural resources and environmental systems research to insure a sustained flow of goods and services that will meet intergenerational demands. •To contribute to the theoretical knowledge base within this planned program to ensure that where possible all applied research can be grounded in the best science and evaluation available.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	3.8	0.0
2009	0.0	0.0	3.6	0.0
2010	0.0	0.0	3.4	0.0
2011	0.0	0.0	3.2	0.0
2012	0.0	0.0	3.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within this planned research program are/will be: - online and in print research-based publications targeted to (a) specific stakeholder groups, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - non-commercialized techniques that are distributed to those in need without costs (e.g. wildlife depredation mitigation techniques); - consultation services and meetings with agencies/organizations, stakeholders and supporters; - facilitation of training programs/workshops for other scientists, support organizations such as ODNR and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and to plan new research.

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

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

3. Description of targeted audience

Targeted audiences are, but are not limited to: - specific individuals or groups who have expressed a need for natural resources and environmental research knowledge that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at USDA, ODNR, or a county extension agent; - related agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change, e.g. fish and wildlife clubs; - populations who have not requested the information but will likely benefit from that information, e.g. people who fish for recreation; - other scientists and scientific groups; - political entities; - extension personnel; - students from pre-school to post doctorate studies; - news organizations; and - business groups such as Ohio Farm Bureau and community collations such as watershed collations.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	25	0	0
2009	25	0	0
2010	25	0	0
2011	25	0	0
2012	25	0	0

V(H). State Defined Outputs

1. Output Target

- ,•peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article

  2008 :25 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**25

- •online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials

  2008 :25 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**25

- •online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

  2008 :20 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**20

- •non - commercialized techniques will be tracked as to number of adoptions, and by whom

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

- •number of consultations regarding research findings with stakeholders/groups requesting the research and in what areas of knowledge desired

  2008 :10 **2009 :**12 **2010 :** 13 **2011 :**15 **2012 :**13

- •training programs by how many, what type of stakeholder participated in what type of program and what non-OARDC organization helped to lead the training

2008 :4 **2009 :**4 **2010 :** 5 **2011 :**5 **2012 :**5

- •planning meeting participation as to who(non-OARDC) participated and at what level to help take a research project to the next level

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

- •number of graduate students graduated and professional positons they hold

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

V(I). State Defined Outcome

1. Outcome Target

• In conjunction with companion agencies and organizations, advance research in forest biology and ecology to promote (a) best management practices on private forest land in Ohio with an incremental gain of 5% of lands each year

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

(b) improve the flow of forest raw materials to the extent it meets the needs of Ohio industries within ten years

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

(c) increase the production of oak and reduce maple to eventually achieve a balance equivalent to forest with natural fire regimes

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

(d) meet federal and state needs for research data related to Ohio forest systems as the demand arises

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

(e) and increase the flow of environmental services through conservation actions commensurate with regional demand, i.e. Buffer zones in forest riparian zones, reforestation, CREP, carbon sequestration in forests and grassland biomass

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

• Advance research knowledge, both basic and applied, in the areas of silviculture and horticulture to existing and emerging industry and consumer demand regarding forest genetics, forest biology, seed production, nutrition, and related topics

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
1	1	1	1	2

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

• Meet ODNR, USDA, USDI, local, commodity groups, community, and other stakeholder demands for scientific knowledge to inform existing and emerging issues related to human wildlife use/conflicts and human to human conflicts related to wildlife and use

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

1. Outcome Target

•To contribute to the theoretical knowledge base within this planned program to ensure that where possible all applied research can be grounded in the best science and evaluation available

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes, coupled with pest and diseases that are often climate related, can impact outcomes. Public policy shifts, regulations, and shifts in demand will be impact outcomes. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

Experiment station evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ‘so what?’ Experiment Station reviews, as do stakeholders and those who provide extramural funding, are more demanding as to chronicling impact.

2. Data Collection Methods

- Whole population
- Unstructured
- Case Study
- Observation

Description

Data collection in this planned program tends to be unstructured feedback from stakeholders, peers, and administrators, rather than formal pencil and paper evaluation. In the area of community based programs, such as watershed development, joint OARDC and extension activities results in formal surveys that usually address adoption and processes rather than actual research findings

per se. Observations with recorded biological, physical, and social data make up the bulk of data collection in this program. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Nutrition Education and Behavior (Extension)

2. Brief summary about Planned Program

Healthy People are a major focus of Ohio Family and Consumer Sciences programming. Ten leading health indicators have been selected in “Healthy People 2010” a partnership between public, private and non-profit sectors to address chronic health issues facing Americans. They include physical activity, overweight and obesity. Nutrition education for individuals and families in community settings and the workplace where program participants explore the newly revised Dietary Guidelines and the Food Guidance system will help people understand strategies to develop healthy-eating lifestyles. Two federally sponsored nutrition education programs for low-income individuals and families – the Expanded Food and Nutrition Program and the Family Nutrition Program address these same topics. Additional nutrition education programs are designed to reduce the risks of heart disease, cancer and obesity through improved diet and increased physical activity. Through these programs Ohioans with these chronic conditions will better manage their disease, reduce health costs and complications. Programming addressing these issues includes Dining with Diabetes and Jump Into Food and Fitness a youth curriculum to help youth develop healthy eating and physical fitness habits. After school care programs for youth which include education on preventing overweight and developing a healthful lifestyle with regard to food, nutrition and physical fitness. Adopting these behaviors could help reduce children’s risk for becoming overweight and for developing other life-threatening chronic illnesses. These nutrition educations programs are provided through collaborative efforts with other health professionals and community partners.

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

703	100%	Nutrition Education and Behavior

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

1. Situation and priorities

According to the U.S. Department of Health and Human Services (HHS) the percentage of obese Americans 20 years or older increased from 23 percent in 1998-1994 to 31 percent in 1999-2000. Men’s obesity increased from 20 percent to 28 percent, and women’s from 25 percent to 33 percent. In addition, a 2005 study reported by the U.S. Department of Agriculture’s Economic Research Service indicates that women who are food stamp recipients are more likely to be overweight or obese. Children’s weight also remains a concern with the percentage that is overweight nearly tripling in the past 30 years. Low-income children, girls from 12 – 19 years old in families who receive food stamps are nearly twice as likely to be overweight or at risk for being overweight than their higher-income peers. Obesity, heart disease, cancer and diabetes are becoming more prevalent in Ohio. In 2001, more than 21 percent of Ohio residents were considered obese, a 7 percent rise from 1991 according to the Center for Chronic Disease Prevention and Health Promotion. Heart disease and stroke are among the leading causes of death in the state. Additionally rates of diabetes are increasing and it is now the fifth leading cause of death. The cost of chronic disease in terms of both money and quality of life is extensive. These facts support the need for nutrition and healthy lifestyle education for all residents.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Ohio residents are bombarded daily with nutrition and fitness information through the media. Due to the increases in overweight and incidence of chronic diseases, many individuals are seeking answers to their questions regarding a healthy lifestyle. OSU Extension is looked upon as the research based arm of the University and the best source to provide reliable information. In the short term, OSU Family and Consumer Sciences will help participants develop a healthy lifestyle and prevent overweight through a clearly defined nutrition and healthy lifestyle education strategy based upon previous successes. The interventions include programming at the county level, reaching participants in their local communities and addressing their identified needs. The following successes demonstrate positive experiences to date. In 2004, 78 percent of the participants in the Expanded Food and Nutrition Education Program improved one or more nutrition practices. Nearly 90 percent reported positive changes. A survey of 1,073 participants in the 2004 Family Nutrition Program found that they were more likely to use the nutrition facts labels, eat more fruits and vegetables and engage in physical activity. In 2004, more than 780 participants in the Dining with Diabetes program reported that they learned something new. A total of 4,142 people in 28 Ohio communities participated in physical activity programs. More the 1,900 adopted recommendations primarily by participating in walking programs sponsored by OSU Extension, parks and recreation programs and county health departments.

2. Ultimate goal(s) of this Program

Over time the ultimate goal of nutrition education is to achieve the Healthy People 2010 target goals of lowering the proportion of adults and children who are overweight.
Additionally, other benefits include a decreased risk for weight-related problems and chronic diseases affected by physical activity and diet, and reduced health costs due to healthy weight management.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	52.0	0.0	0.0	0.0
2009	52.0	0.0	0.0	0.0
2010	55.0	0.0	0.0	0.0
2011	60.0	0.0	0.0	0.0
2012	60.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Expanded Food and Nutrition Program (EFNEP)
- Series of Classes
- Newsletter
- Youth curriculum and day camps
- Training provided for EFNEP staff by state personnel
- Collaborations with agencies including Women Infants and Children, Local Health Departments, Help Me Grow and related organizations

Family Nutrition Program (FNP)
- Series of Classes
- Individual Classes
- Newsletter
- Summer Day Camps in select counties
- Training provided for FNP staff by state personnel and regional specialists

Collaborations with agencies to offer programming including Jobs and Family Services, Women Infants and Children, Local Health Departments, Help Me Grow, Food Banks and Pantries, Senior Centers and related organizations

Dining with Diabetes (DWD)

Series of classes offered in participating counties

Newsletter

Training for program team provided by statewide Dining with Diabetes Team and invited speakers

Curriculum revision and development by DWD Team

Collaborations with agencies to offer programming include Registered Dietitians,Certified Diabetes Educators, Health Professionals and support at the State level from the Ohio Department of Health

Media releases to promote programming

General Nutrition Education

Individual workshops and/or series of classes offered in counties to address needs of local clientele.

Newsletters, press and radio releases

Collaborations with agencies to offer programming include Senior Centers, community clubs and organizations, health departments, schools and other community groups

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

Extension	
Direct Methods	**Indirect Methods**
• One-on-One Intervention • Workshop • Demonstrations • Education Class • Group Discussion	• Other 1 (Radio Programs) • TV Media Programs • Other 2 (Pamphlets, Brochures) • Billboards • Web sites • Newsletters • Public Service Announcement

3. Description of targeted audience

The target audience varies by program; Expanded Food and Nutrition Education and Family Nutrition Programs are targeted to reach low-income audience homemakers with children from birth to 18 years of age and specifically for the Family Nutrition Program food stamp recipients with mothers as the priority target. The Dining with Diabetes Program targets individuals with diabetes and their caregivers/family support members. General nutrition programming is specifically designed for the audience. For example school programming is age appropriate whereas programs at Senior Centers are targeted to individuals living alone or with one other person in terms of food preparation. The end result is a program that has the potential to encompass all residents of the county.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	36000	5000	11000	0
2009	37000	5000	11500	0
2010	38000	5000	11500	0
2011	39000	5000	12000	0
2012	39000	5000	12000	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of participants

2008 :1600 **2009 :**1825 **2010 :** 1925 **2011 :**2050 **2012 :**2150

- Number of newsletters for EFNEP, FNP, DWD, and general nutrition programs

2008 :16 **2009 :**16 **2010 :** 16 **2011 :**16 **2012 :**16

- Collaborations formed/maintained

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

- Curriculum revised/created for DWD and EFNEP

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

- Number of classes

2008 :90 **2009 :**100 **2010 :** 100 **2011 :**110 **2012 :**110

V(I). State Defined Outcome

1. Outcome Target

% of participants who demonstrate the ability to plan menus and choose foods using the Dietary Guidelines and My Pyramid.

2. Outcome Type : Change in Knowledge Outcome Measure

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

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

1. Outcome Target

% of participants who indicate an intent to adopt one or more healthy food/nutrition practices.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
75	77	80	81	82

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

1. Outcome Target

% of participants who indicate an intent to begin or increase physical activity.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
60	62	65	66	67

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

1. Outcome Target

% of participants who demonstrate adoption of healthy eating practices by: Improved lifestyle practices based on the Dietary Guidelines and My Pyramid Improved intake of food group servings (increased intake of vegetables, fruits and low calorie dairy items; reduced intake of calories and fat)

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
51	55	57	59	60

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

1. Outcome Target

% of participants who demonstrate adoption of increased time spent in physical activity Implementing regular physical activity Increased participation in games involving physical activity Reduction in sedentary activities such as watching TV and playing video games

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
30	35	37	39	40

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

Evaluation instruments are specifically designed for each program and vary in content, delivery method and sample size.

2. Data Collection Methods

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

Description

EFNEP uses enrolled family demographics, a 24 hour food recall and a behavior checklist to determine behavior change. The Family Nutrition Program collects participant demographic information and uses a retrospective survey at the end of a program series to determine behavior change. Dining with Diabetes has an end of program survey to document self-reported behavior change.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Ohio 4-H Teen Leadership (Extension)

2. Brief summary about Planned Program

Preparing today's youth for their roles as tomorrow's leaders is one of Ohio 4-H's most important goals. The following 4-H teen leadership development program opportunities are planned for 2007-2011: • Leadership: Part Of All 4-H Projects • 4-H Leadership Projects • 4-H Club Officer And Committee Systems • Junior/Teen Leadership Programs • 4-H Camp Counselor Opportunities • 4-H Teen Boardsmanship / Youth in Governance • 4-H Ambassadors & Spokesperson Opportunities • 4-H CARTEENS, 4-H TAP, and other 4-H Leadership Emphasis Programs • 4-H Service Leadership • 4-H Workforce Preparation • State 4-H Leadership Camp • Ohio 4-H Teen Conference • National & International 4-H Leadership

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

806	100%	Youth Development

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

1. Situation and priorities

The future of the nation, and the future of world civilization, will soon rest in the hands of today's young people. To become productive and contributing individuals who can be effective and proactive in determining the course of tomorrow's world, youth must develop positive leadership knowledge, attitudes, skills, and aspirations. Preparing young people for their roles as tomorrow's leaders is a challenge we all face. Youth leadership development has been identified as one of Ohio 4-H's most important program priorities in every statewide 4-H needs assessment conducted over the past three decades. In recent years, both the Battelle study (2005) and the 2004 Ohio 4-H Strategic Plan have documented the importance of Ohio 4-H in preparing youth with the leadership skills and abilities they need to become self-directing, productive, and contributing members of society.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

4-H is recognized for developing youth leadership, citizenship and life skills. Ohio's 4-H teen leadership development program has a long history successful "learn by doing" leadership development and youth in governance. For example, the recommendations of renowned experiential education pioneers such as A.B. Graham (1926), John Dewey (1938) and Edgar Dale (1946) (who each advocated real-life, applied educational experiences) were incorporated into the design of the very first 4-H experiences in which members developed authentic leadership abilities by assuming real-life officer and committee leadership roles, and were advised (rather than led) by adult volunteer advisors, and this approach continues to be an important aspect of 4-H programming. More recently, key elements identified by the National 4-H Impact Study Work Group (1998) for youth to achieve positive outcomes, and the four elements identified by Cathann Kress (National 4-H Conference, 2005 & 2006) have been documented in 4-H leadership development design, evaluation, and reporting. In addition, ten research-based principles for effective youth leadership development identified through studies conducted with recognized adult leaders and with leading youth leadership program directors across the country (Cox, 1988 and Woyach and Cox, 1996) have provided a foundation on which 4-H youth leadership programs are built. The principles are as follows: 1. Effective youth leadership programs should be developed around stated purposes and goals. 2. Effective youth leadership programs encourage high expectations and confidence in youth and demonstrate respect for youth. 3. Effective youth leadership programs emphasize experiential learning and provide opportunities for youth to exercise genuine

leadership. 4. Effective youth leadership programs enable youth to understand the history, values, and beliefs of their society. 5. Effective youth leadership programs promote awareness, understanding, and tolerance of other people, cultures, and societies. 6. Effective youth leadership programs involve youth in collaborative experiences, teamwork, and networking with peers. 7. Effective youth leadership programs help youth develop skills related to leadership. 8. Effective youth leadership programs involve youth in significant relationships with mentors, positive role models, or other nurturing adults. 9. Effective youth leadership programs facilitate the development of individual strengths and personal characteristics. 10 Effective youth leadership programs encourage youth to provide service to others, to their communities, to their country, and to the world.

2. Ultimate goal(s) of this Program

• Better lives, businesses, and communities for all citizens. • As adults, alumni of 4-H teen leadership programs will be engaged as pro-active leaders in strengthening and determining the future of their chosen professions, their families, their communities, the nation, and the world.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	10.0	0.0	0.0	0.0
2009	10.0	0.0	0.0	0.0
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

V(F). Planned Program (Activity)

1. Activity for the Program

• 4-H Leadership Projects4-H projects are planned experiences in which youth develop knowledge, attitudes, skills, and aspirations related to a specific topic. Information and research results are disseminated to youth through 4-H projects. The 12 4-H leadership projects will be updated and new ones developed.• 4-H Club Officer And Committee System4-H members become leaders through real-life responsibilities as club officers and committee members. Officer and committee resources and workshops will be provided.• Junior/Teen Leadership ProgramsResources and education in County 4-H Junior/Teen Leadership programs will enable teens to develop advanced leadership among peer leaders.• 4-H Camp Counselor OpportunitiesTeens will develop advanced leadership abilities by serving as 4-H camp counselors, student assistants and in similar roles. Teens will receive training, supervised internships, and practical experience in these roles.• 4-H Teen Boardsmanship / Youth in GovernanceBy serving on 4-H boards and representing 4-H on boards of partner organizations, teens gain real-life leadership experience. Resources and workshops will be provided to strengthen teen board leadership opportunities.• 4-H Ambassadors & Spokesperson OpportunitiesOhio 4-H Ambassadors will develop leadership as 4-H youth spokespersons throughout the state. Also, county programs such as Awareness Teams, Public Relations Corps and other leadership opportunities will be offered.• 4-H CARTEENS, 4-H TAP, and other 4-H Leadership Emphasis ProgramsTeens will develop leadership through special emphasis 4-H leadership programs such as the 4-H CARTEENS program and the 4-H Teen Action Partnership (TAP) (in which 4-H teen leaders peer-teach violence prevention and personal safety). Resources and workshops will be provided.• 4-H Service LeadershipOhio 4-H members will develop leadership abilities by planning, conducting, and evaluating 4-H service-learning programs and projects. Resources and education will be provided.• 4-H Workforce PreparationIntegrated Extension and Research programming will enable 4-H teen participants (and stakeholders) to document high-value workforce abilities gained.• State 4-H Leadership CampLeadership Camp is the epitome of a successful "learn by doing" approach to leadership development, and will be continued.• Ohio 4-H Teen ConferenceA strong leadership dimension will be incorporated into the annual Ohio 4-H Teen Conference, involving approximately 1000 teens per year.

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

Extension	
Direct Methods	**Indirect Methods**
• One-on-One Intervention • Group Discussion • Workshop • Demonstrations	• TV Media Programs • Web sites • Newsletters

3. Description of targeted audience

Ohio teens age 13 and older

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	2500	5000	25000	50000
2009	2500	5000	25000	50000
2010	2500	5000	25000	50000
2011	2500	5000	25000	50000
2012	2500	5000	25000	50000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Numbers of teens participating in Ohio 4-H teen leadership development program opportunities

2008 : 25000 **2009 :** 25000 **2010 :** 25000 **2011 :** 25000 **2012 :** 25000

- Types of roles in which 4-H teens and young alumni exercise leadership following participation in 4-H teen leadership development program opportunities

2008 :12 **2009 :**12 **2010 :** 12 **2011 :**12 **2012 :**12

V(I). State Defined Outcome

1. Outcome Target

250,000 Ohio youth learn to effectively exercise leadership through project experiences and group activities

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :250000 **2009 :** 250000 **2010 :** 250000 **2011 :**250000 **2012 :** 250000

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

20,000+ Ohio teens develop advanced leadership skills knowledge, attitudes and aspirations each year as a result of targeted 4-H teen leadership program activities

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :20000 **2009 :** 20000 **2010 :** 20000 **2011 :**20000 **2012 :** 20000

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

Ohio youth apply what they learn through 4-H in real-life leadership to make a positive difference in their clubs, communities, country and world.

2. Outcome Type : Change in Action Outcome Measure

2008 :2000 **2009 :** 2000 **2010 :** 2000 **2011 :**2000 **2012 :** 2000

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

4-H teens and young 4-H alumni effectively lead groups, programs, and activities in a variety of youth leadership roles. (types of roles)

2. Outcome Type : Change in Action Outcome Measure

2008 :12 **2009 :** 12 **2010 :** 12 **2011 :**12 **2012 :** 12

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

Better lives, businesses, and communities for all citizens. (types of roles)

2. Outcome Type : Change in Condition Outcome Measure

2008 :12 **2009 :** 12 **2010 :** 12 **2011 :**12 **2012 :** 12

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

As adults, alumni of 4-H teen leadership programs are engaged as pro-active leaders in strengthening and determining the future of their communities, the nation, and the world. (types of roles)

2. Outcome Type : Change in Condition Outcome Measure

2008 : 12	**2009 :** 12	**2010 :** 12	**2011 :** 12	**2012 :** 12

3. Associated Knowledge Area(s)

- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Competing Public priorities
- Competing Programatic Challenges

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Structured
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Ohio Dairy Health Management Certificate Program (Extension)

2. Brief summary about Planned Program

The Ohio Dairy Health Management Certificate Program is an educational series designed to offer advanced knowledge in an intensive workshop environment to dairy veterinary practitioners. The course provides a framework to develop applied skills in dairy health management and decision making. Participants will develop quantitative and personal skills that can be used to promote production medicine services. Course material can be applied to dairy farms of any size. The course provides a curriculum that emphasizes application at every level. Out-of-class assignments constitute an important part of learning, and are designed to emphasize key learning objectives and allow participants to apply principles to their dairy clients. Instructors are available to assist between meeting sessions. The curriculum is constructed in a step-wise manner, functionally building skills. Learning material and method of delivery will effectively permit participants to transform learning into applied skills to promote their careers in the dairy industry. Twelve (12) 2-3 day modules are being held over a 3 year period (approximately 1 per quarter) commencing on December 2, 2004. Modules will commence on a Thursday at 1:00 p.m., and will generally conclude at noon the following Saturday (2 overnights).

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

301	15%	Reproductive Performance of Animals
311	20%	Animal Diseases
312	5%	External Parasites and Pests of Animals
313	5%	Internal Parasites in Animals
314	5%	Toxic Chemicals, Poisonous Plants, Naturally Occuring Toxins, and Other Hazards Affecting Animals
315	15%	Animal Welfare/Well-Being and Protection
711	15%	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	15%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
722	5%	Zoonotic Diseases and Parasites Affecting Humans

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

1. Situation and priorities

One way to dichotomize dairy veterinary practitioners is those who engage in traditional “fire engine” practice (healing sick cows) and those who engage in “production medicine” practice (enhancing farm profitability). Most veterinary medicine clinical curriculum is focused almost exclusively upon preparation for traditional practice. Dairy producers have a need for management advice to

increase their profitability. Dairy veterinarians practicing production medicine act as consultants that help interpret records used in herd monitoring. They have an understanding of norms, benchmarking, variance, and data acquisition/manipulation. Dairy veterinarians also help with economics, nutrition, milk quality, cow comfort and longevity, as well as practicing preventive medicine and reproduction management. In addition, neonatal health, replacement heifer management, food safety, animal welfare, and herd expansion are areas in which production medicine practitioners can help.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

This program has been well received by participants. Participants volunteered to be a part of the program and invested an incredible amount of time and money into participation. The end result will be an increase in knowledge and skills as well as an increase in economic potential. Participants bring a great amount of experience and previous knowledge to the program. Participants will share their experiences and benefit the entire group. The following study showed a positive effect of this type of programming on veterinary service: Moore,DA; Sischo,WM; Hutchinson,LJ (1996): Effect of participation by veterinarians in a dairy production medicine continuing education course on management practices and performance of client herds. javma 209, 1086-1089.

2. Ultimate goal(s) of this Program

To create a network of highly skilled dairy practitioners who help the industry as a whole and provide a resource for the dairy veterinary profession and veterinary students. Participants will build relationships, communicate with each other, and seek advice from one another on specific production issues. Participants will develop a working relationship with Extension and utilize Extension resources in solving problems. Ultimate goal: Improved milk quality on client farms.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	10.0	0.0	0.0	0.0
2009	10.0	0.0	0.0	0.0
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

V(F). Planned Program (Activity)

1. Activity for the Program

Twelve 2-day modules are held that bring participants together. Farm visits will allow participants to work together on real world problems. Expert speakers are brought in to talk with the group. An e-mail listserv is used to allow participants to communicate with each other at any time over the three-year period. Structured, step-wise, comprehensive program focused on dairy production medicine.

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

Extension	
Direct Methods	**Indirect Methods**
• Workshop • One-on-One Intervention • Education Class • Demonstrations • Group Discussion	• Web sites • Other 1 (e-mail)

3. Description of targeted audience

Veterinary practitioners whose practice has a large percentage of dairy clients; Practitioners who have been out of school and in practice for at least a few years

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	25	0	0	0
2009	25	0	0	0
2010	25	0	0	0
2011	25	0	0	0
2012	25	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of participants at each session

2008 :25 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**25

V(I). State Defined Outcome

1. Outcome Target

Better understanding of dairy records

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :25 **2009 :** 25 **2010 :** 25 **2011 :**25 **2012 :** 25

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 311 - Animal Diseases

1. Outcome Target

Better understanding of economics, nutrition, milk quality, cow comfort, and facilities; Interpersonal & Leadership skills; and Business & economic skills

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :25 **2009 :** 25 **2010 :** 25 **2011 :**25 **2012 :** 25

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

A thorough understanding of all aspects in a modern dairy operation

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :25 **2009 :** 25 **2010 :** 25 **2011 :**25 **2012 :** 25

3. Associated Knowledge Area(s)

- 315 - Animal Welfare/Well-Being and Protection
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Participants recognize OSU as leader in area

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :25 **2009 :** 25 **2010 :** 25 **2011 :**25 **2012 :** 25

3. Associated Knowledge Area(s)

- 311 - Animal Diseases

1. Outcome Target

A change in behavior of the participants such that they have better interpersonal and consulting skills for Dairy Herd Health Management by increasing the number of veterinary services available, increasing the number of milk quality services, and increasing in consulting visits by veterinarians who were program participants

2. Outcome Type : Change in Action Outcome Measure

2008 :25 **2009 :** 25 **2010 :** 25 **2011 :**25 **2012 :** 25

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection

1. Outcome Target

Improved economic viability for dairy veterinary practitioners and their dairy clients

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
25	25	25	25	25

3. Associated Knowledge Area(s)

- 311 - Animal Diseases

1. Outcome Target

Improved milk quality on client farms

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
25	25	25	25	25

3. Associated Knowledge Area(s)

- 311 - Animal Diseases
- 722 - Zoonotic Diseases and Parasites Affecting Humans

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Other (Extremely Busy People)

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- During (during program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Pesticide Education Program (Extension)

2. Brief summary about Planned Program

The Pesticide Education Program provides educational programming and outreach to: 1) protect human health and maintain environmental quality wherever pesticides are used through educating a. pesticide applicators b. workers who may be exposed to pesticides or residues c. general public who may use or be exposed to pesticides 2) assist businesses, public agencies and farmers and their employees in complying with federal and state pesticide laws while providing jobs for Ohio citizens

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

133	10%	Pollution Prevention and Mitigation
211	10%	Insects, Mites, and Other Arthropods Affecting Plants
212	10%	Pathogens and Nematodes Affecting Plants
213	10%	Weeds Affecting Plants
214	10%	Vertebrates, Mollusks, and Other Pests Affecting Plants
312	10%	External Parasites and Pests of Animals
402	10%	Engineering Systems and Equipment
711	10%	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
721	10%	Insects and Other Pests Affecting Humans
723	10%	Hazards to Human Health and Safety

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

1. Situation and priorities

Pesticides can potentially cause adverse effects to humans and the environment but are also necessary for the production of food and fiber and the protection of human and animal health. The public is concerned that pesticides are used responsibly and only when needed. It is in the public interest to provide adequate training and ensure the continued competency of applicators. Applicators need up-to-date, science based information to make informed decisions and prevent potential adverse effects.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Much of the way the program works is based on federal and state laws and regulatory requirements. The assumption is that intervention through training and certification of applicators will reduce the risk of adverse effects to human health and the environment. More toxic products should only be used by licensed or trained individuals. Following pesticide regulations and best management practices and integrated pest management approaches will reduce pollution and negative impacts on human health.

2. Ultimate goal(s) of this Program

Farmers, businesses and public agencies are in compliance with pesticide laws and have a trained, certified workforce. Pesticides are used responsibly so that the health of applicators, workers and the pubic are protected and any adverse effects to the environment are avoided or minimized.

V(E). Planned Program (Inputs)

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

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

V(F). Planned Program (Activity)

1. Activity for the Program

Face to face workshops, training and field days. Develop powerpoints, DVD’s, manuals and other resources Assist in developing exams Develop curricula for training new applicators Partner with other state agencies such as ODA, ODH and ODOT. Partner with other state programs and offer training to surrounding state’s applicators Provide pesticide information through websites, electronic newsletters and other technology as appropriate

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

Extension	
Direct Methods	Indirect Methods
• Demonstrations • One-on-One Intervention • Education Class • Other 1 (DVD's, power point presentations) • Workshop • Group Discussion	• Other 2 (fact sheets, job aids) • Newsletters • Web sites • Public Service Announcement • Other 1 (manuals)

3. Description of targeted audience

Farmers/growers who use restricted and general use pesticides. Commercial applicators who apply pesticides as part of their job for private businesses or governmental agencies. School personnel and others who apply pesticides where children and other sensitive populations may be exposed.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	7500	0	0	0
2009	7500	0	0	0
2010	7500	0	0	0
2011	7500	0	0	0
2012	7500	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of private applicators attending a certification program

  2008 : 100 **2009 :** 100 **2010 :** 100 **2011 :** 100 **2012 :** 100

- Number of commercial applicators attending a certification program

  2008 : 150 **2009 :** 150 **2010 :** 150 **2011 :** 150 **2012 :** 150

- Number of private applicators attending a recertification program

  2008 : 5000 **2009 :** 5000 **2010 :** 5000 **2011 :** 5000 **2012 :** 5000

- Number of commercial applicators attending a recertification program

2008 :2000 **2009 :**2000 **2010 :** 2000 **2011 :**2000 **2012 :**2000

V(I). State Defined Outcome

1. Outcome Target

Number of participants who increased their knowledge

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :500 **2009 :** 500 **2010 :** 500 **2011 :**500 **2012 :** 500

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 312 - External Parasites and Pests of Animals
- 402 - Engineering Systems and Equipment
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 721 - Insects and Other Pests Affecting Humans
- 723 - Hazards to Human Health and Safety

1. Outcome Target

Number of participants who have adopted or plan to adopt a practice to protect human health or the environment

2. Outcome Type : Change in Action Outcome Measure

2008 :500 **2009 :** 500 **2010 :** 500 **2011 :**500 **2012 :** 500

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 312 - External Parasites and Pests of Animals
- 402 - Engineering Systems and Equipment
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 721 - Insects and Other Pests Affecting Humans
- 723 - Hazards to Human Health and Safety

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

This program can be highly affected by public policy and regulatory changes due to the regulatory, mandated nature of the program.

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

1. Evaluation Studies Planned

- After Only (post program)

Description

Due to insufficient budgets, most evaluations are after program. If grants or additional dollars become available we would consider doing more extensive evaluations or comparisons.

2. Data Collection Methods

- On-Site

Description

Self-reporting on end of meeting evaluations

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant Systems-OARDC Led

2. Brief summary about Planned Program

Plant programs are a substantial component of Ohio's food, fiber, and agricultural industry, providing jobs, value-added products, and a healthy supply of raw and manufactured products worldwide. Plant programs are a major economic force in Ohio. OARDC has provided scientific leadership at all levels in this program for over a century, including the Green Revolution in Asia. One example of OARDC and OSU Extension programming is tomatoes. In 2005, the economic return on investment for Ohio tomatoes, based on OARDC economic simulations, rarely exceeds 5% for tomato paste. In contrast, these simulations indicate that whole-peel and diced products yield an average return on investment of 22%. Lycopene and beta-carotene, key nutritional (and marketing) assets, are reduced by 18% and 22%, respectively, in fruits affected by yellow shoulder disorder (YSD). Beta-carotene is recognized as a nutrient due to pro-vitamin activity and lycopene consumption has been correlated with a reduction in certain cancers. The cause of color disorders such as YSD involves both plant genotype and environmental conditions. OARDC research has associated low levels of available potassium (K) and phosphorous (P) in soils with a higher incidence of YSD. Another soil factor strongly implicated is organic matter, with high YSD risk associated with soils having less than 1.5% organic matter. The effect of K fertigation through sub-surface irrigation lines on crop quality and quantity is showing promise. Foliar K applications have been ineffective in increasing either fruit yield or quality. Varieties of tomato differ in their susceptibility to color disorders, thus variety use may offer growers a strategy to manage fields with low K, P, or organic matter. OARDC and OSU Extension are promoting management practices that reduce YSD and optimize return on investment, while increasing the potential for health benefits. The Plant Systems Planned Program embraces multiple levels ranging from investigations at the genetic level to studying all aspects of production and pathology. Such program positions Ohio as a major contributor to both basic and applied plant sciences, and substantially contributes to the food security at national and global levels. Ohio has consistently been a leading state in the production of corn and soybeans for both domestic and export markets. The Green Industry is often referred to as having its roots in Ohio. Genetic research provides a foundation for the program with inquiries from the genome level through gene pool studies. Emphasis is placed on pre-harvest programs to reduce risks for producers, processors, and consumers, and ensure high productivity. Plant management systems, as well as protecting plants from other plants, animal pests, and diseases is an area of research strength with emphasis on Integrated Pest Management (IPM). Producers, processors, and distributors in this program are well organized and rely heavily on OARDC for scientific information. Over the years they have been actively engaged in the process of research from needs identification to summative assessments of outcomes. OARDC research is disseminated by OSU Extension.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

201	10%	Plant Genome, Genetics, and Genetic Mechanisms
202	15%	Plant Genetic Resources
204	30%	Plant Product Quality and Utility (Preharvest)
205	10%	Plant Management Systems
211	5%	Insects, Mites, and Other Arthropods Affecting Plants
212	5%	Pathogens and Nematodes Affecting Plants
213	5%	Weeds Affecting Plants
214	5%	Vertebrates, Mollusks, and Other Pests Affecting Plants
216	15%	Integrated Pest Management Systems

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

1. Situation and priorities

Providing for the sustained and secure flow of food from the field and assuring producers, processors, distributors, and consumers that their plant-based food system is informed by the best science available is an expectation of OARDC. The science behind the system is not only critical for provision of food worldwide; it is also a major economic driver. Corn and soybeans collectively add two billion dollars to Ohio and the regional economy each year, with over $600 million of soybean exports annually. OARDC addresses direct needs of all these constituency groups by interacting with them and understanding their needs. Scientists also address needs before they ever arrive in the state, i.e. studying soybean rust and breeding Ohio varieties that have the greatest potential for resistance. There is no sector in Ohio that this planned program does not impact in that plant based food systems nurture the world. Much of the interactions are with organized groups of producers, processors, and consumers. Consumer demand for products is often relayed through feedback from other organized groups such as food distributors, e.g. demand for a firmer fruit. Without a growing body of knowledge to create efficiencies and security in the plant based food systems, opportunities will be missed and society will not be well served. With over one hundred years of research history, a robust body of literature, and a well-developed network of clientele, supporters, and companion agencies and organizations, including OSU Extension, OARDC is well positioned to continue to effect positive change in this planned program. Effective research requires a mixture of laboratory, greenhouse, controlled study fields, and on-farm research to maximize knowledge. Emerging threats now demand planning of more advanced facilities such as a biosecurity lab.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Understanding the basic and applied science related to how plant systems are maintained and managed is central to meeting society's need for food and associated economic activities. As we address problems and needs within our stakeholder communities, the organizations (OARDC and OSU Extension) become better prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Other key assumptions are: •The issues within this program have been identified by our stakeholder communities, and/or via the scientific literature, reflect the more important issues and

warrant allocation of resources. •The understanding of this planned program and how society utilizes and depends on the associated research is key to present and future decision-making in provisioning of food, fiber, and environmental services. •All citizens directly benefit from a safe, secure, and plentiful plant based food system.•These lines of inquiry will provide necessary information to inform human enterprises. •Research and education related to plant systems is a demand by society to meet current and future needs.

2. Ultimate goal(s) of this Program

Goals for Plant Systems Plant production research will: - generate knowledge related to plant genomes, markers, structures, and similar areas of studies commensurate with the demand of other scientists and stakeholders who will apply this knowledge to their areas of plant breeding, growth, and development. - Provide at minimum one new contribution annually to the body of literature that will positively advance this area of study. Plant genetic resource research will: - advance the science of germplasms preservation, acquisition, and information systems over the next ten years to the extent that the genetic resources targeted for acquisition are preserved and that targeted plant systems in Ohio and the region can be considered secure in terms of systems preservation. - Enrich the gene pool and gene pool knowledge to the extent that breeding programs have the materials with the desired traits on-demand to move forward with releasing varieties, etc. Plant preharvest research will: - provide the necessary quality and utility data, including cultural practices, seed quality assurance, breeding, and other biological and physical investigations necessary to support preharvest practices that achieve the prerequisite yield, disease resistance, and other characteristics to retain Ohio status as a top soybean and corn producer and to advance other desirable crops as demand evolves, e.g. substitute crops for tobacco, disease resistance organics. Plant management systems research will: - participate in modeling and sampling of crop data, including remote sensing, for the purpose of deriving systems that are cost effective and cost efficient for producers. - Evaluate production management systems, including organics, sustainable agriculture initiatives, small-scale farming/niche market systems for the purpose of increasing efficiency and effectiveness, thus making innovative farming systems more attractive to stakeholders. - support biosecurity research commensurate with the overt or potential threats. - Support OSU Extension's Master Gardening program by providing the green industry research necessary to advance the development of materials and field trails required to keep the program viable. Plant protection research will: - employ an integrated approach to protecting plants from harmful insects and other invertebrates, pathogens, vertebrates, and weeds to the extent that the research is required to mitigate impacts that have significant negative economic or environmental consequences. Investigaations are of both current and forecasted threats.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	22.2	0.0
2009	0.0	0.0	21.1	0.0
2010	0.0	0.0	20.0	0.0
2011	0.0	0.0	19.0	0.0
2012	0.0	0.0	18.1	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within this planned program are/will be: - online and in print research –based publications targeted to (a) specific stakeholder groups, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; - peer-reviewed journal articles; - commercialized techniques; - non-commericalized techniques that are distributed to those in need without costs (e.g. wetland construction techniques); - limited number of patents; - consultation services and meetings with stakeholders and supporters; - facilitation of training programs/workshops for other scientist and for specific groups of stakeholders, including international visitors; and - planning meeting with advisory groups to communicate findings and plan new research.

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

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Education Class • Workshop	• Newsletters

3. Description of targeted audience

Targeted audiences are, but are not limited to: - specific individuals or groups who have expressed a need for plant systems information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at a USDA office, NRCS, or a county extension agent; - fellow agencies or support organizations who will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; - populations who have not requested the information but will likely benefit from that information, e.g. home gardeners; - other scientists and scientific groups; - political entities; - extension personnel; - students for pre-school to post doctorate studies; and - news organizations;

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	24	0	0
2009	24	0	0
2010	24	0	0
2011	24	0	0
2012	24	0	0

V(H). State Defined Outputs

1. Output Target

- •online and print research-based publications will be tracked in terms of number of 'hits' on the web site and the numbers and sites for distribution of printed materials;

  2008 : 20 **2009 :** 25 **2010 :** 25 **2011 :** 25 **2012 :** 25

- ,•peer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article

  2008 : 24 **2009 :** 24 **2010 :** 24 **2011 :** 24 **2012 :** 24

- •commercialized techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

- •patents by number and who partnered/purchased/commercialized;

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

- •non - commercialized techniques will be tracked as to number of adoptions, and by whom;

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

- •consultations with recipients and in what areas;

  2008 : 20 **2009 :** 20 **2010 :** 20 **2011 :** 20 **2012 :** 25

- •training program by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

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

- •planning meeting participation as to who(non-OARDC) participated at what level to help take a research project to the next level.

  2008 : 2 **2009 :** 2 **2010 :** 3 **2011 :** 4 **2012 :** 5

- •number of graduate students graduated and professional positions they hold

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

V(I). State Defined Outcome

1. Outcome Target

Meet or exceed the demand of fellow scientists and stakeholders within the next ten years for materials relating to plant genetics and plant breeding technologies, including identification of molecular markers for elite germplasms

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

Provide at minimum one new contribution annually to the body of literature that will positively advance plant genetics, e.g. molecular techniques and materials to aid in low temperature plant tolerance research

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

Advance germplasm science over the next ten years to the extent that the genetic resources targeted for acquisition are preserved and can be considered secure in terms of systems preservation, e.g. short season crops or for studying rice pathogens

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof, to meet identified stakeholder needs, with incremental needs fulfillment by stakeholders in at least 25% of the areas annually-turf needs for nutrient uptake efficient materials, turf with greater traction, etc.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for -greater disease/pest resistance, e.g. rust, ash borer, develop glyphosate ready material, increase quantity and quality yield in crops such as soybeans

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms

- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for - disease resistance of rootstocks such as for apple trees and green industry

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for resistance to plant stresses, e.g. discoloration in products such as tomatoes reducing a $60 million loss annually in tomato industry

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants

- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for molecular studies to better understand how immune systems in plants in inhibit diseases and how bacteria perturb the immune system

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for gene recombination and interaction studies to inform decisions on importing new genetic stock, e.g. soybeans from northern China

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Enrich the gene pool and knowledge thereof…… in at least 25% of the areas annually for - developing longer lasting cultivars in terms of disease resistance such as in alfalfa

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Annually provide adequate preharvest research findings, including field trial data, to support Ohio's status as a top soybean and corn producer

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Release or support release by others of one special cultivar annually, e.g. grapes to replace tobacco in southeastern Ohio, low maintenance turf grass, nitrogen uptake efficient crops including foliar based fertilization, field crop cultivars

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
1	1	1	1	2

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants

- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Promote and participate annually in at least one type of stakeholder participatory research initiative, e.g. sentinel plots on farms for soybean rust

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Continually participate in and promote the development and timely release of modeling/forecasting programs that are cost effective and cost efficient for producers, e.g. WEEDCAST

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Continually promote the full integration of all plant and animal pests, including microbes, into IPM planning and execution

2. Outcome Type : Change in Action Outcome Measure

2008 : 1 **2009 :** 1 **2010 :** 2 **2011 :** 1 **2012 :** 2

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants

- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Annually contribute to and report a basic or applied understanding of IPM, including all physical, biological, and chemical components of the plant system, to reduce environmental stresses, improve production, and lower costs when employed

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 - Integrated Pest Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes, pests, weeds, and diseases can impact outcomes within plant systems. As the food, fiber, and environmental economy adjust to the global marketplace, in conjunction with public policy shifts, regulations, and shifts in demand, outcomes will be impacted. Production agriculture is most sensitive to these shifts. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

Description

Plant systems project evaluation begins with HATCH project reviews and approval, with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provides a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ‘so what?’ Experiment Station reviews, as do stakeholders and those who provide extramural funding, are more demanding as to chronicling impact.

2. Data Collection Methods

- Whole population
- Unstructured
- Case Study
- Observation

Description

Data collection in the Plant Systems program tends to be unstructured feedback from stakeholders, peers, and administrators, rather than formal pencil and paper evaluation. Where strong, well-organized groups such as commodity groups exists, joint OARDC and extension activities result in formal surveys that usually address adoption of research rather than actual research findings per se. Observations with recorded biological and physical science data, and adoption and application, make up the bulk of data collection in this program. Annually, OARDC gathers individual faculty, program, and departmental data and measures against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Preparing Communities for the Knowledge Economy (Extension)

2. Brief summary about Planned Program

Use multi-disciplinary teams to develop educational programming and applied research to help transition communities to a knowledge economy. Key focus areas include: • Using convening meetings to develop networks of professionals • Development of a web site and web based resources for education and information • Intensive community programming to build entrepreneurial communities • Development of regional approaches and connectiveness

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

608	100%	Community Resource Planning and Development

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

1. Situation and priorities

Local communities in Ohio are lagging to transition to the Knowledge Economy. Ohio trails in many Knowledge Economy indicators including educational attainment, adoption of Knowledge Economy economic development strategies, etc. For example the Progressive Policy Institute (2002) ranks Ohio 30th out of 50 states in their New Economy Index. Local leadership needs to adopt new philosophies and approaches to provide the environment and resources for businesses to survive and thrive.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

The shift to the knowledge economy is critical to the economic future of Ohio communities. Due to technology and globalization the U. S. economy has moved away from manufacturing jobs to an economy based on creativity, innovation and problem solving. Having a workforce with higher degrees of educational attainment is critical to compete in the Knowledge Economy. Ohio currently ranks 39th out of 50 among the states in percent with a college degree and 27th in the Progressive Policy Institute's educational attainment of the workforce. Ohio has also made educational achievement a priority.

2. Ultimate goal(s) of this Program

Ohio communities that understand and have the capacity to compete in the knowledge economy. Understand the knowledge economy Become entrepreneurial friendly communities Adopt strategies to compete in the knowledge economy

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	6.0	0.0	0.0	0.0
2009	10.0	0.0	0.0	0.0
2010	15.0	0.0	0.0	0.0
2011	20.0	0.0	0.0	0.0
2012	21.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Creation and delivery of programs and curriculum including: • Workshops • Web pages and related media • Capacity training • Customized educational programs • Community assessments • Employment skill training • Leadership skill development • Collaboration, networking and partnership tools

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

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

3. Description of targeted audience

Targeted audiences include: • Local elected and appointed officials • Business leaders • Economic development professionals • Community residents • School officials and parents of school age children • Support service providers (banks, advisors) • Youth aged 13 – 17 • Lower skilled/traditional workforce • Potential and existing entrepreneurs • Unemployed/underemployed

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	530	2450	50	250
2009	600	3100	100	400
2010	900	3500	150	550
2011	1300	5000	225	900
2012	1500	7500	300	1000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Local elected and appointed officials

  2008 :100 **2009 :**150 **2010 :** 200 **2011 :**300 **2012 :**400

- Business leaders

  2008 :50 **2009 :**75 **2010 :** 100 **2011 :**150 **2012 :**250

- Economic development professionals

  2008 :30 **2009 :**40 **2010 :** 60 **2011 :**70 **2012 :**100

- Community residents

  2008 :1000 **2009 :**2000 **2010 :** 3000 **2011 :**4000 **2012 :**7000

- School officials and parents of school age children

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

- Support service providers (banks, advisors)

  2008 :50 **2009 :**75 **2010 :** 120 **2011 :**150 **2012 :**300

- Youth aged 13 – 17

  2008 :50 **2009 :**90 **2010 :** 150 **2011 :**250 **2012 :**350

- Lower skilled/traditional workforce

  2008 :100 **2009 :**200 **2010 :** 400 **2011 :**600 **2012 :**800

- Potential and existing entrepreneurs

  2008 :30 **2009 :**50 **2010 :** 75 **2011 :**150 **2012 :**300

- Unemployed/underemployed

2008 :40 **2009 :**80 **2010 :** 160 **2011 :**350 **2012 :**500

- number of communities reached

2008 :5 **2009 :**8 **2010 :** 15 **2011 :**20 **2012 :**35

V(I). State Defined Outcome

1. Outcome Target

-number of participants with a greater understanding of the knowledge economy

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :120 **2009 :** 200 **2010 :** 350 **2011 :**500 **2012 :** 750

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

1. Outcome Target

-development of networks of professionals to support knowledge economy initiatives

2. Outcome Type : Change in Action Outcome Measure

2008 :40 **2009 :** 65 **2010 :** 85 **2011 :**110 **2012 :** 150

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- Time series (multiple points before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population
- Structured
- Observation

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Soil, Water and Air Systems-OARDC Led

2. Brief summary about Planned Program

The understanding of interactions among soil, water, and air resources provide a basis for delivering to society food, fiber, other associated products, and related services. The appraisal of soil systems, including the physical, chemical, and biological components, their management for targeted outcomes, and the monitoring and mapping thereof, is a critical research step. Likewise these activities provide a basis for extending such knowledge to stakeholders who have participated in defining the need. Soil, water and air interactions are explored in relationship to plant growth and development with particular focus on plant nutrition. Included in this line of inquiry, but not limited to, are soil microbes, management practices for surface and subsurface components, and amendments to soil and water and the effects thereof, both positive and negative. While analysis and individual practices are at the field and farm level, the total systems approach typically will be carried out at the watershed level, or sub region of the watershed. To that end, the supplying of water for plant, animal, human, and business use is studied, as are methods to conserve and protect water resources and watersheds. Soil protection and management of effects of wind and water, and other natural forces, are included. Both components of the natural watersheds and built structures, e.g. wetlands, are research and extension foci. Scarcity of land and water resources demands the investigation of alternative uses and efficiency studies. Understanding air resources including for example odors from animals or how atmospheric carbon that can be attracted and stored in soil, wetlands, and living plants is a growing area of importance to a fuller comprehension of soil, water and air systems. Mitigation of negative effects of odors, carbon loading, other related air quality issues are critical lines of inquiry that are being pursued. Knowledge from these inquiries provides a basis for extending knowledge that for example has been requested to help address rural urban interface conflicts, e.g. odors from animal operations.

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

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

101	10%	Appraisal of Soil Resources
102	40%	Soil, Plant, Water, Nutrient Relationships
111	20%	Conservation and Efficient Use of Water
112	20%	Watershed Protection and Management
141	10%	Air Resource Protection and Management

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

1. Situation and priorities

As societal demands increase for natural resources and associated commodities and environmental services, greater understanding of conservation and wise use of soil, water, and air resources is paramount. Unmet needs and unresolved conflicts have social, economic, and environmental consequences. Agriculture experiment stations and extension programs, especially in a highly urbanized state such as Ohio, have a unique opportunity to aid in meeting both latent and overtly stated needs of society in this planned program area. Individuals and families associated with food and fiber production need the research information that is generated through this program for their business, as do processors. Communities, both rural and urban, need both the biological and management knowledge to protect their natural resource base and to address rural - urban interface needs and conflicts.

Commodity, environmental, community groups such as watershed-based community groups, regulators, and political leaders are demanding the best science and extension education programs to insure that resource conflicts are avoided or managed, and that growth and development can occur within reasonable social and environmental bounds. Such work is well-grounded theoretically and extensive applied peer reviewed literature exists. The challenges lie in applying what is known to new and emerging issues and generating basic research as needed. While a number of areas, such as microbial ecology and plant nutrition still require extensive laboratory experiments, it is the on-farm and in-watershed fieldwork, where stakeholders live and work, that provide some of the richest opportunities for research and extension to engage in situation analyses and priority setting.

2. Scope of the Program

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

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

1. Assumptions made for the Program

This program assumes that by understanding the scientific underpinnings (both basic and applied) of soil, water, and air sciences, independently and collectively, as these relate to our food, agriculture, and environmental foci, we can address problems and needs within our stakeholders communities and be prepared to take advantage of emerging opportunities or to more rapidly address problems within these areas. Key assumptions are: 1) The issues within this program that have been identified within our stakeholder communities and/or within the scientific literature reflect the more important issues and warrant allocation of resources. 2) The understanding of soils, soils systems, and how society utilizes and depends on soil is key to present and future decision-making in provisioning and managing food and fiber systems and environmental services. 3) Commodity groups, processors, and consumers depend on soil, water, air and associated nutrient research for plant production for societal well-being. 4) Research related to water and accessibility of water for plant and animal nutrition, human enterprises, and environmental services is important to society and will be utilized for enhanced decision-making by stakeholders and all citizens. 5) Research and education related to conservation of water, and landscape-scale best management practices in water projects, is demanded by society to meet current and future needs. 6) Air quality research, as well as air resources (including sequestration of air borne carbon) for plant and animal production, for human health, and for environmental quality, is a high priority among all sectors within our industry and support publics. These issues are manifested at some community level and those stakeholders who are most vested will become involved; others' involvement will be limited, yet they will reap the benefits of a sound basic and applied understanding of soil, water, and air research and extension programming. Base federal funding can be leveraged to support this planned program and to support available scientific staff to carry out the lines of inquiry noted within the knowledge areas for this program.

2. Ultimate goal(s) of this Program

Goals are: 1) Soils research to: a) support USDA, NRCS, ODNR and local government/stakeholder initiatives to understand, map, and to determine and implement best management/allocation practices for soils of Ohio and the region. - enhance soil management for greater economic and environmental gains. 2) Water research to - support USDA, NRCS, ODNR and local government/stakeholder initiatives to understand, map, and determine and implement best practices/allocation for water resources and watersheds of Ohio and the region., - enhance water management for greater economic and environmental gains. 3) Air research to: - support federal, state, and local agendas, including stakeholders and beneficiaries thereof, seeking to mitigate program-related air quality problems or to enhance air quality for plant, animal, and human health, as well as environmental well being, - Support unique, both new and yet to emerge, air related programs such as carbon sequestration for agronomic, economic (e.g. carbon trading), or environmental gains for society as a whole and for specific stakeholder groups. 4) Integrated soil, water and air research to - understand the system in such manner as to inform both on-site (e.g. on-farm) and landscape scale decisions necessary to meet individual stakeholder groups' and societal needs, - Support international, national, state, and local agendas for advancing environmental quality to insure a sustained flow of goods and services that will meet intergenerational demands. 5) To contribute to the theoretical knowledge base within this planned program to ensure that, where possible, all applied research can be grounded in the best science and evaluation available.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	6.6	0.0
2009	0.0	0.0	6.3	0.0
2010	0.0	0.0	6.0	0.0
2011	0.0	0.0	5.7	0.0
2012	0.0	0.0	5.4	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Outputs within this planned program are/will be: 1) online and in print research-based publications targeted to: (a) specific stakeholder groups, (b) support publics such as fellow agencies, political entities, (c) targeted populations, and (d) the broader general public, including mass media releases; 2) peer-reviewed journal articles; 3) commercialized techniques/inventions; 4) non-commericalized techniques/inventions that are distributed to those in need without costs (e.g. wetland construction techniques); 5) intellectual properties; 6) consultation services; 7) meetings with stakeholders and supporters; 8) facilitation of training programs/workshops for other scientists and for specific groups of stakeholders, including international visitors; and 9) planning meetings with advisory groups to communicate findings and plan new research.

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

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

3. Description of targeted audience

Targeted audiences are, but not limited to: 1) Specific individuals or groups who have expressed a need for certain information that is to be derived through new research, extracted from on-going research, or is derived from scientific literature. Often those requests are communicated to OARDC by an intermediary such as a staffer at Ohio Dept of Natural Resources or a county extension agent; 2) Fellow agencies or support organizations that will not only use the information but will also be brokers of that information, including embedding it into groups to encourage change; 3) Populations who have not requested the information but will likely benefit from that information, e.g. immigrant populations; 4) Other scientists and scientific groups; 5) Political entities; 6) Extension personnel; 7) Students from pre-school to post doctorate studies; 8) News organizations; and 9) Business groups such as chambers of commerce and community coalitions.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	12	0	0
2009	12	0	0
2010	12	0	0
2011	12	0	0
2012	12	0	0

V(H). State Defined Outputs

1. Output Target

- Âpeer-reviewed publications will be tracked in terms of name and tier of journal, as well as record of citations of the article;

  2008 :12 **2009 :**12 **2010 :** 12 **2011 :**12 **2012 :**12

- Âcommercialized techniques will be tracked as to purchaser, number of adoptions, and by whom;

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

- Ânon - commercialized techniques will be tracked as to number of adoptions, and by whom;

  2008 :2 **2009 :**1 **2010 :** 1 **2011 :**2 **2012 :**1

- Ã‚Âpatents by number and who partnered/purchased/commercialized;

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

- Âconsultations by recipients and in what areas;

  2008 :25 **2009 :**25 **2010 :** 25 **2011 :**25 **2012 :**27

- Âtraining program by how many of what type of stakeholder participated in what type of program; what non-OARDC organization helped to lead the training;

2008 : 120 **2009 :** 140 **2010 :** 160 **2011 :** 180 **2012 :** 180

- Âplanning meeting participation as to who(non-OARDC) participated at what level to help take a research project to the next level;

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

- Â number of graduate students completed, their research areas, and the positions of employment they hold.

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

V(I). State Defined Outcome

1. Outcome Target

Continue to advance soil, water, nutrient, and plant research to ensure Ohio continues to be one of the top five states in corn and soybean production and has knowledge to support growing niche market agriculture, organic farming and biobased products.

2. Outcome Type : Change in Action Outcome Measure

2008 : 2 **2009 :** 2 **2010 :** 1 **2011 :** 1 **2012 :** 1

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Provide the necessary research finding (scientific knowledge and techniques) to support stakeholders' compliance with Ohio and federal EPA regulations, and future regulations, regarding odors and other air quality issues in ag production and processing.

2. Outcome Type : Change in Action Outcome Measure

2008 : 1 **2009 :** 1 **2010 :** 1 **2011 :** 2 **2012 :** 2

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Expand watershed and ecosystem level modeling to the extent that scientific data and watershed management protocols can bring all streams effected by agriculture and natural resource runoff into compliance with Ohio EPA standards.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships

- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management

1. Outcome Target

Through the provisioning of watershed specific data, support the creation of and conservation action of community-based watershed networks in each major watershed in Ohio.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
2	2	1	1	2

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Advance the basic knowledge contribution so that Ohio continues to be viewed as a center of excellence in terms of soils and water sciences, and associated extension programming.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management

1. Outcome Target

Track publications, developed techniques, consultations, OARDC sponsored training, and other forms of OARDC outputs for stakeholder use to assess level of adoption and impact with a goal of shifting more sectors into early adoption.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Develop all research projects with external input with a clear goal of commercialization of findings and job growth/economic activity for each project; where not possible, develop for non – commercial early adoption by one or more stakeholders/groups.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
3	3	3	3	3

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Support the mapping of county level soils with a target of three new counties per year

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
3	3	3	3	3

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources

1. Outcome Target

Provide the necessary soil and water research, in conjunction with actions in other planned programs KA (e.g. IPM), to permit continued adoption of conservation tillage practices in the face of problems such as climatic changes, pest, etc.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

1. Outcome Target

Advance carbon sequestration research to the point that Ohio farmers can enter the carbon trading market.

2. Outcome Type : Change in Condition Outcome Measure

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

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 141 - Air Resource Protection and Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Climatic extremes, coupled with pest and diseases that are often climate related, can impact outcomes. As the food, fiber, and environmental economy adjust to the global marketplace, in conjunction with public policy shifts, regulations, and shifts in demand, outcomes will be impacted. Formative evaluation though can lessen the burden by seeking feedback throughout the life of the program. Internal factors such as the availability of base funding to ensure a core faculty and staff, availability of extramural funds, and programmatic demands that often exceed resources, all may affect outcomes.

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

1. Evaluation Studies Planned

- Comparison between locales where the program operates and sites without program intervention
- Before-After (before and after program)
- Case Study
- During (during program)

Description

Experiment station evaluation begins with HATCH project reviews and approval, and with formative evaluation of the annual progress reports. Final project reports, reports to those providing extramural funds, and peer- review of journal articles provide a more summative assessment. Pre-planning with stakeholders of research continues to provide a strong bases for framing projects that have potential of adoption; with such approach outcomes become more easily identified. Research projects and clusters of research projects lend themselves well to case studies in that each project or faculty program is a case with a set of objectives and outputs defined within a specific context. Most of the analysis leads either faculty, peers, or the research team themselves to investigate outcomes and impacts by asking ƒ„‘so what?ƒ„’ Experiment Station reviews, as do stakeholders and those who provide extramural funding, are becoming more demanding as to chronicling impact.

2. Data Collection Methods

- Whole population
- Observation
- Case Study
- Unstructured

Description

Data collection in this planned program tends to be unstructured feedback from stakeholders, peers, and administrators, rather than formal pencil and paper evaluation. In the area of community based programs, such as watershed development, joint OARDC and extension activities results in formal surveys that usually address adoption and processes rather than actual research findings per se. Observations with recorded biological, physical, and social data make up the bulk of data collection in this program. Annually, OARDC gathers individual faculty, program, and departmental data and measures it against stated goals and objectives to provide another level of documenting outputs and outcomes.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Sustainable Agriculture (Extension)

2. Brief summary about Planned Program

Since 1996 a coalition of organizations and individuals interested in sustainable agriculture has comprised the Ohio Sustainable Agriculture Team. The team consists of Extension Educators and Specialists, university researchers, NRCS staff, and stakeholders such as farmers, leaders of sustainable agriculture non-profit organizations, and consumer organizations. The initial mission of this team was to develop and implement professional development opportunities for Extension educators/ specialists and NRCS staff. The team mission has evolved during the past ten years to include the development and implementation of professional development programs for additional groups of agricultural professionals (farm lenders, Soil & Water Conservation Districts, etc.) and educational programs targeted to farm families and even consumers (Ohio Farm Profitability Tour Series, Country Living Field Day, Organic Grain Production Workshops, Small Farm Center at Farm Science Review, etc.). Since 1996, several SARE PDP competitive grant proposals have been developed and implemented by the Sustainable Agriculture Team in partnership with stakeholder groups and non-profit organizations (i.e., direct marketing, whole farm planning, organic grain transition). Since 2004, the Sustainable Agriculture Team has evolved into an entity which provides comprehensive leadership for all NCR SARE programs in the state of Ohio, as opposed to primarily providing leadership for SARE PDP programs. The Sustainable Agriculture Team has expanded its target audience from agricultural professionals to now include farmers, consumers, graduate students, researchers, non-profit organizations, and the general public.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

102	10%	Soil, Plant, Water, Nutrient Relationships
123	10%	Management and Sustainability of Forest Resources
131	10%	Alternative Uses of Land
136	10%	Conservation of Biological Diversity
205	10%	Plant Management Systems
216	10%	Integrated Pest Management Systems
307	10%	Animal Management Systems
601	10%	Economics of Agricultural Production and Farm Management
604	20%	Marketing and Distribution Practices

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

1. Situation and priorities

The Ohio Sustainable Agriculture Program is guided by the Sustainable Agriculture Team, which consists of 24 Extension professionals and university faculty, and 16 stakeholders, seven of which are farmers. The team meets formally three times a year. Meetings consist of day-long planning sessions combined with a professional development activity or topic. Additionally, the team participates in sustainable agriculture professional development programs throughout the year. To achieve the sustainable agriculture outcomes, the Sustainable Agriculture Team conducts workshops, tours, field days, lectures, a newsletter, a website, displays, news releases, television and radio shows, exhibits, and in-service training programs.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

Since its inception the Sustainable Agriculture Team has actively engaged stakeholders in the development and implementation of sustainable agriculture programs. Leaders of Ohio's statewide sustainable agriculture non-profit organizations (Innovative Farmers of Ohio and Ohio Ecological Food and Farm Association) are active members of the Sustainable Agriculture Team, as are leaders of other farm organizations and citizens groups. Additionally, seven farmers are also active members of the Sustainable Agriculture Team. Educational programs delivered are developed from research based information. Publications and reports are used from SARE and Extension to teach sustainable ideas and practices. This program is based on practical application of useful data requested by farmers and educators to improve their sustainable practices. These needs will continue into the near and far term future.

2. Ultimate goal(s) of this Program

To improve sustainable agriculture in Ohio

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	2.0	0.0	0.0	0.0
2009	2.0	0.0	0.0	0.0
2010	2.0	0.0	0.0	0.0
2011	2.0	0.0	0.0	0.0
2012	2.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Primary:Plan and conduct Sustainable ag newsletter, workshops, field days, travel scholarships, teaching kit for new educators, farm toursOther:Provide leadership for sustainable agriculture professional development programs for Extension agents, NRCS staff, and other agriculture professionals in Ohio
Serve as a technical resource regarding various sustainable ag issues for Extension agents, NRCS staff and other ag professionals.Serve as a liason to the North Central Region of SARE Program and promote SARE programs and resources among farmers, Extension agents, NRCS staff, and other ag professionals in Ohio.Provide opportunities to network for sustainable ag non-profit organizations, ag agencies, and organizations as well as farmers to develop educational programs and resources for Ohio farm families and consumers.

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 • Demonstrations • Education Class • Workshop	• Web sites • Newsletters

3. Description of targeted audience

Extension Educators, NRCS staff, agricultural professionals, farmers, consumers

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	1000	5000	0	0
2009	1200	6000	0	0
2010	1300	6500	0	0
2011	1500	7000	0	0
2012	1575	7100	0	0

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of requests for resources and programs, participant roster, number of grants submitted, participant evaluation

2008 : 150 **2009 :** 150 **2010 :** 170 **2011 :** 170 **2012 :** 170

- A quarterly newsletter is sent to over 100 Educators, ag agency personnel, and farmers.

2008 : 180 **2009 :** 180 **2010 :** 180 **2011 :** 180 **2012 :** 180

- Workshops are held in various locations around Ohio and are scheduled 2-3 times each year. Topics of workshops include SARE grants, cover crops, organic grain production, and alternative enterprises.

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

- Field days and tours are held during summer months around Ohio at various locations. Farm topics include grain, vegetable, and livestock sustainable practices.

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

- $500 scholarships are given to Educators to travel to attend sustainable functions.

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

- Over 50 requests for grants and resources are received each year.

2008 : 55 **2009 :** 55 **2010 :** 60 **2011 :** 60 **2012 :** 60

V(I). State Defined Outcome

1. Outcome Target

Increase the sustainable agriculture knowledge and skills of Extension Educators, NRCS staff and other ag professionals in Ohio

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 150 **2009 :** 150 **2010 :** 150 **2011 :** 150 **2012 :** 150

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 216 - Integrated Pest Management Systems
- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

1. Outcome Target

Increase the use of the SARE program and resources among farmers, Extension Educators, NRCS staff, and other ag professionals in Ohio

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 175 **2009 :** 175 **2010 :** 175 **2011 :** 175 **2012 :** 175

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

1. Outcome Target

Improve the practices of the farmers of Ohio to include sustainable agriculture approaches}

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
100	100	110	110	120

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 136 - Conservation of Biological Diversity
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

1. Outcome Target

More Educators will become knowledgeable about sustainable practices, such as cover crops, organic fruit & vegetable production, sustainable beef production, direct marketing.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
200	200	210	210	210

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 604 - Marketing and Distribution Practices

1. Outcome Target

More Extension educators will conduct a greater number of programs on sustainable ag topics

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
50	50	60	70	75

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 136 - Conservation of Biological Diversity
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

1. Outcome Target

Ohio farms will become more economically, environmentally, and socially sustainable

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
200	300	300	350	350

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Sustainable agriculture practices education will be necessary if farmers need alternative farming practices

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Volunteer Education & Training (Extension)

2. Brief summary about Planned Program

4-H Youth Development has long relied on adult volunteers to develop, implement and evaluate educational programs for youth participants and their families. As society continues to evolve and change, so are the individuals that are potential volunteers for the 4-H Youth Development program. To ensure that the organization has volunteers with the requisite knowledge and skills, organizations must implement orientation programs for new volunteers and continuing education for volunteers working directly with youth. The focus of this effort will be to increase awareness and knowledge of the principles of youth development, policies, procedures, best practices, and strategies for engaging young people from socially and economically diverse populations through initial orientation and ongoing educational programs. Ultimately, the program will result in volunteers possessing and applying their knowledge, skills, and positive attitudes as they develop, implement and evaluate hands-on educational programs for youth ages 5-19.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

802	100%	Human Development and Family Well-Being

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

1. Situation and priorities

WhatIn 2005 there were approximately 23,000 adult volunteers who gave their time, energy and talent to the Ohio 4-H Youth Development program. Volunteers served in varied roles ranging from organizational advisors, project club leaders, middle managers, after-school program coordinators, literacy mentors, and with special interest programs. The overwhelming majority of a volunteer's time is spent working directly with young people ranging from 5 to 19 years of age. Volunteer roles also generally include working cooperatively with other adults, community leaders, business owners, and elected officials.WhyVolunteers frequently have a high public visibility on behalf of a nonprofit corporation; they are the persons whom individuals dealing with the nonprofit corporation see first and most often (DeWitt, 1995). In many local communities 4-H is closely associated with the volunteers who proudly speak of and promote their involvement in the program. These individuals have tremendous responsibility as they are working with youth, under the age of 18 and generally are not under the direct supervision of paid staff. Recognizing their high public visibility, scope of responsibility, and autonomy related to program implementation, it is important for initial orientation as well as continuing education to address ongoing needs and interests.For WhomThere are approximately 23,000 adult volunteers giving their time to the Ohio 4-H Youth Development program, with the overwhelming majority involved in the community club program. As well, there are increasing numbers of volunteers who are serving in emerging program areas, with new partnerships, and in changing ways (i.e. episodic, family, and occasional). This program will target the approximately 1,800 new adult 4-H volunteers that are engaged each year and the nearly 23,000 ongoing volunteers serving with the program.Who CaresThe demographics of volunteers are changing and the expectations of parents/guardians are increasing. Over the past five years, 4-H has evolved its message to communicate the philosophies of a youth development program rather than a program that simply offers activities for young people to participate. It is important that all volunteers understand and apply the principles that make programs sound and effective. There is growing concern by volunteers, parents, guardians, and community members related to risks associated with youth programming. Increased orientation, training, and education will help address and reduce the potential for harm to young people and liability of the volunteer.Available Research/Experience
Recent research supports the effectiveness of volunteer training in that seminars prepared volunteers for facilitating inquiry-based activities with children in after-school sites (Smith, Dasher, & Klingborg, 2005).
A 2005 survey of Ohio 4-H Extension professionals found that Educators rated orientation materials, the Ohio 4-H Volunteer Conference, self-directed web-based 4-H orientation, and self-directed web-based education for volunteers all as important for future

development for Ohio 4-H volunteers (Schmiesing & Schwartz, 2005)

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

The Ohio 4-H Youth Development program has a growing tradition of offering volunteer education and training for adult volunteers serving in local communities. Over the years, multiple delivery methods for training have been discussed and/or pilot tested with minimal success. Face-to-face training and education programs continue to be popular and well attended by volunteers as they are easily accessible, directly relevant to local programming efforts, and conducted by known professionals, volunteers or others who are perceived to be knowledgeable in a given discipline. At the same time, tremendous success has been realized through a statewide volunteer recognition and education program conducted each year in central Ohio. This program allows for training/education to be conducted on a large scale by experts in the field of youth development. A large program offering and planning committee with majority of the seats held by volunteers has allowed this program to be successful.As the pool of potential volunteers continues to change, it is becoming necessary for the Cooperative Extension program, and more specifically the 4-H Youth Development program, to change its approach to volunteer education and training. Recognizing that volunteers have less time to give (i.e. attend training/orientation) or they are coming to the organization with a deeper skill set than their predecessors, training and education programs must evolve. Development and implementation of web-based curriculum and materials will compliment (and in some cases potentially replace) face-to-face training. This delivery strategy will offer the time strapped volunteer the opportunity to remain engaged in the program as they will be able to complete training/education requirements through an alternative means, other than face-to-face instruction.

2. Ultimate goal(s) of this Program

• Increase the total number of volunteers possessing and using skills and knowledge gained through 4-H volunteer orientation and training and through their service in their local community.• Provide safe learning environments for youth supported by a caring adult.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	25.0	0.0	0.0	0.0
2009	25.0	0.0	0.0	0.0
2010	25.0	0.0	0.0	0.0
2011	25.0	0.0	0.0	0.0
2012	25.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Conduct county-based required volunteer orientation for all new volunteers serving in the youth development program focusing on principles of positive youth development, organizational policies, procedures, and best practices. • Conduct annual statewide volunteer conference focusing on project specific knowledge and skills and leadership development for adult volunteers who work directly with youth. • Conduct continuing professional education opportunities for volunteers on the local, regional and statewide level focusing on youth development principles and subject matter content. • Develop web-based training and education modules for volunteers and build library of resources for Educators to use when conducting training/education programs for volunteers locally. • Establish methods to document knowledge and skills gained and identify the extent of impact training, education, and service has on volunteers.

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

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

3. Description of targeted audience

Adult volunteers, over the age of 18 and not current 4-H members, who are currently serving the 4-H youth development program or who potentially will be serving the 4-H youth development program.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	10000	12000	0	200000
2009	12000	15000	0	225000
2010	15000	20000	0	225000
2011	20000	20000	0	250000
2012	20000	20000	0	250000

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- County-based volunteer training and education programs will be held each year engaging adult volunteers serving community clubs, after-school programs, residential and day camps, and special interest programs. County Educators will report the

number of training and/or educational programs conducted and volunteers attending through a year-end evaluation.

2008 :1500 **2009 :**1600 **2010 :** 1600 **2011 :**1700 **2012 :**1800

- Conduct annual statewide volunteer conference for 1,200 adult volunteers who may select from 100 educational workshops focusing on project specific knowledge and skills and leadership development for adult volunteers who work directly with youth.

2008 :1200 **2009 :**1200 **2010 :** 1300 **2011 :**1300 **2012 :**1350

- Conduct 250 continuing professional education programs for 15,000 volunteers on the local, regional and statewide level focusing on youth development principles and subject matter content.

2008 :15000 **2009 :**15000 **2010 :** 16000 **2011 :**16000 **2012 :**16000

- Develop three new web-based training and/or education modules focusing on youth development principles, youth/adult partnerships, and conflict management for volunteers and build library of resources that includes over 50 curriculum pieces for Educators to use when conducting required new volunteer orientation training/education programs for 1800 individuals yearly.

2008 :1800 **2009 :**1800 **2010 :** 1900 **2011 :**1900 **2012 :**1900

- Establish methods to document knowledge and skills gained and identify the extent of impact training, education, and service has on volunteers as measured by volunteer responses to mailed survey.

2008 :500 **2009 :**500 **2010 :** 500 **2011 :**500 **2012 :**500

V(I). State Defined Outcome

1. Outcome Target

75% will increase their awareness of the principles of positive youth development by attending at least one county-based volunteer training/education program during the year.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :7500 **2009 :** 7500 **2010 :** 7500 **2011 :**8000 **2012 :** 8000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

50% of volunteers that have participated in county-based, statewide, and/or web-based education/training programs will adopt and apply at least two new strategies for engaging young people in programs and activities.

2. Outcome Type : Change in Action Outcome Measure

2008 :5000 **2009 :** 5000 **2010 :** 5000 **2011 :**5000 **2012 :** 5000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

35% of volunteers currently serving as volunteers with a community club, after-school program, residential/day camp or special interest program will transfer the skills, knowledge and attitudes they have learned and apply to other programs or situations in their local communities as measured by volunteer responses to mailed survey.

2. Outcome Type : Change in Condition Outcome Measure

2008 :5000 **2009 :** 5000 **2010 :** 5000 **2011 :**5000 **2012 :** 5000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

Ohio 4-H Youth Development will increase the number of caring adults from 20,000 to 30,000 serving in the 4-H Youth Development program who are providing safe and positive environments for hands-on learning as defined by youth participants and parents/guardians.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
5000	5000	5000	5000	5000

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Three primary external factors may influence the outcomes are the economy (i.e. individuals having to take multiple jobs; work longer hours; spend increased time job searching, thus having less time to devote to volunteer and educational programs); public policy changes (i.e. changes in laws or policy that mandate further education of volunteers working with members of vulnerable populations); and population changes (i.e. evolving demographics of potential volunteers who may not desire to serve long-term assignments or be interested/willing to attend training as they see it as a barrier to actually volunteering, thus will take their services to other programs).

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

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

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Youth Food Producing Animal Quality Assurance (Extension)

2. Brief summary about Planned Program

In the past 10 years, great improvements have been made in the State of Ohio regarding educational activities associated with quality assurance (QA) principles related to food producing animal 4-H projects. The Ohio Department of Agriculture mandates annual participation in QA training for youth involved in food animal projects ensuring a delivery mechanism for information in this area. Programs have been developed for producer and youth education in beef (Dr. Steve Boyles, State of Ohio) and pork (National Pork Board) QA that are excellent sources of information in this realm and additional programs in post-harvest food safety (HACCP) have been coordinated with these programs to provide consumers with greater confidence in the products produced as a result of food animal agriculture. Further youth in food producing animal projects through 4-H and other youth groups have been included in the definition of livestock and poultry producers. Quality assurance programming will impact 56,500 youth who participate in food producing animal projects in the state of Ohio, their parents, in addition to the extension professionals and volunteers who conduct QA training at the county, club and species clinic levels. The proposed program will be based off of the “Youth Food Animal Quality Assurance Curriculum Guide” (YFAQACG) and the minimum standards listed in the curriculum guide. Developing a program around a set curricula base will ensure consistency in content and delivery of QA programming state wide assuring that all youth in Ohio with food producing animal projects will have a similar experience.

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

306	10%	Environmental Stress in Animals
307	5%	Animal Management Systems
308	5%	Improved Animal Products (Before Harvest)
315	10%	Animal Welfare/Well-Being and Protection
711	10%	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
723	10%	Hazards to Human Health and Safety
806	50%	Youth Development

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

1. Situation and priorities

Issues surrounding animal welfare and product wholesomeness/safety in agricultural animals have surfaced that must be addressed at all levels of food animal production, including youth participation in 4-H projects. Nationally producer organizations and other industry groups have implemented programs to educate adult producers on the proper care, administering of medications, environmental requirements, proper handling, etc. of food producing animals. Likewise youth programs have been developed in QA and animal welfare however delivering the information in a controlled format requires county based programs that are implemented by extension professionals. Three factors are emerging that affect these areas of extension education. First, 4-H

professionals are being asked to do more with less, so their time is limited and efficient resources are a necessity. Second, as a result of the first, there is increasing reliance on volunteers to deliver educational materials to youth (whether during county wide meetings or via the club). Third, QA and animal welfare are technical fields that require knowledge in the area to critically evaluate the value of materials that are available. As a result, there is a need for the development of an educational program that can be easily and consistently implemented by 4-H volunteers, with the guidance of extension faculty and 4-H professionals, for youth education in the areas of quality assurance and animal welfare.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

The “Youth Food Animal Quality Assurance Curriculum Guide” (YFAQACG) was designed as a user-friendly instrument supplying the educator with the tools to learn about quality assurance in a presentation format that will meet the minimum standards proposed by the curriculum guide. Numerous activities provide opportunities for hands-on experiential learning. The theoretical framework used to develop teaching activities utilized in the highlighted quality assurance programs throughout the nation build upon Kolb’s experiential learning model (Kolb, 1984). The experiential learning model allows individual learners to build upon personal experiences, share those experiences, and process new information, enabling them to generalize and apply newly acquired information for future applications. This model truly gives the learner opportunities to use the do-reflect-apply learning process. Activities throughout the quality assurance program, which build upon the industry-based best production practices, are the foundation for many teaching and learning exchanges designed for 4-H youth development. Such youth development activity-based curriculum assists educators in enabling the learner to cognitively analyze, synthesize, and evaluate new knowledge gained in livestock production and quality assurance, while utilizing the learning domains of Bloom’s taxonomy (Bloom, 1964). Confirmation of learning comprehension of QA curricula will be accomplished through pre- and post test applications. Nold and Hanson (2001), through a pre- and post-test process, cited significant increases in correct answers of knowledge-based questions regarding their study on quality assurance. They concluded in The Effectiveness of Quality Assurance Training for Youth, that youth opinions are impacted as a result of quality assurance training programs. Most youth had an understanding of their basic responsibilities as livestock producers prior to completing quality assurance training; however, these educational programs reinforce the understanding of youth, and also help them recognize the full scope of responsibilities they have as food producers. Following the first full year of implementation, educators will receive a Zoomerang Survey to assess the success of the curriculum, including selected activities and tests.

2. Ultimate goal(s) of this Program

The ultimate goal of the program is to enlighten youth in the proper care and welfare of food producing animals relative to their youth projects. If these youth carry their youth projects into adulthood it will help them develop the critical thinking skills that are needed to be a progressive livestock producer. If they do not continue in the area of livestock production then they should better understand and have a higher appreciation for food animal production and subsequently agriculture as a knowledgeable consumer.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2008	25.0	0.0	0.0	0.0
2009	25.0	0.0	0.0	0.0
2010	25.0	0.0	0.0	0.0
2011	25.0	0.0	0.0	0.0
2012	25.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Extension Education: Development of Ohio's "Youth Food Animal Quality Assurance Curriculum Guide" (YFAQACG) including 12 chapters (Animal Welfare and Ethics, Food Safety, and the 10 Good Production Practices recognized by the Animal Industry), power-point presentation style notes and 22 hands-on experiential learning activities complimenting the important information that youth need to learn about animal production and food safety. 2. Volunteer Training: Yearly Quality Assurance (QA) in-service for 4-H extension educators and volunteers who will be instrumental in delivering quality assurance programming in Ohio at the county, club and species clinic level. This will serve to train the educator for QA programming state wide making each individual county, club or species clinic training session consistent from program to program. 3. Youth Training: County, club and species clinics will be used to educate youth exhibitors reaching 56,500 youth and their parents involved in youth food producing animal projects in Ohio. 4. All can use as reference: Further information will be posted in electronic form on the 4-H animal sciences website and will include updates to the YFAQACG.

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	• Web sites

3. Description of targeted audience

Activity 1 and 4: "Educating the Educator" training portion of QA programming will be directed toward Extension Educators (n=100) that will be in a leadership role for the purpose of delivering QA sessions at the County, Club and Species Clinic Level. This will be a face to face training and Extension Educators will be able to interact with authors of the curriculum piece (YFAQACG). Activity 2 and 4: Extension Educators will serve in the capacity of training volunteers (n=1500) that will deliver QA material to Youth at the county, club and species clinic level. These too will be face to face sessions that will allow for interaction with those teaching QA to Youth. Activity 3 and 4: Volunteers at the county, club and species clinic level will deliver QA material to Youth (n=56,500) and any attending parents in Ohio

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	1600	25000	56500	56500
2009	1600	25000	56500	56500
2010	1600	25000	56500	56500
2011	1600	25000	56500	56500
2012	1600	25000	56500	56500

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

Expected Patent Applications

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

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0

V(H). State Defined Outputs

1. Output Target

- Communicate with Extension Educators yearly during the in-service/updates to determine if we are meeting their need for curriculum and use of the curriculum through year training. (track # of participants and # of sessions and topics discussed)

  2008 :80 **2009 :**80 **2010 :** 80 **2011 :**80 **2012 :**80

- Survey volunteers through extension educators to determine if YFAQACG is an effective tool in conducting QA programming at county, club and species clinic level

  2008 :150 **2009 :**150 **2010 :** 150 **2011 :**150 **2012 :**150

- Survey youth (n=56,500) participating in QA programming to determine if the program is meeting the needs of youth exhibitors maintaining the content standards that we have set for the curriculum and increasing the hands-on experiential activities as mode of delivery to youth.

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

- All can use as reference: Further information will be posted in electronic form on the 4-H animal sciences website and will include updates to the YFAQACG (track visits to website)

  2008 :5000 **2009 :**5000 **2010 :** 5000 **2011 :**5000 **2012 :**5000

V(I). State Defined Outcome

1. Outcome Target

(Activity 3) To determine the effectiveness of QA programming, there will be a Pre- and post-test set administered for determining the comprehension of youth in QA principles. This will determine the effectiveness of the information listed in the YFAQACG and the implementation of the minimum standards delivered to 56,500 yearly in Ohio.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :5000 **2009 :** 5000 **2010 :** 5000 **2011 :**5000 **2012 :** 5000

3. Associated Knowledge Area(s)

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 315 - Animal Welfare/Well-Being and Protection
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety
- 806 - Youth Development

1. Outcome Target

(Activity 3) To determine the effectiveness of QA programming, there will be a Pre- and post-test administered to the parents of youth exhibitors who attend QA sessions for determining comprehension of QA principles being taught using the YFAQACG and the minimum standards.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 500	**2009 :** 500	**2010 :** 500	**2011 :** 500	**2012 :** 500

3. Associated Knowledge Area(s)

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 315 - Animal Welfare/Well-Being and Protection
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety
- 806 - Youth Development

1. Outcome Target

(Activity 1 and 2) Yearly QA in-service evaluations will be administered to extension professionals and volunteers that will be teaching QA to determine the efficiency of educational materials offered to teach youth in QA.

2. Outcome Type : Change in Action Outcome Measure

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

3. Associated Knowledge Area(s)

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 315 - Animal Welfare/Well-Being and Protection
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety
- 806 - Youth Development

1. Outcome Target

(Activity 1, 2, and 3) Tracking the incidence of drug residues in fair animals intended for food - Comprehension of QA principles will lead to a better understanding and a subsequent reduction in the amount type and degree of drug residue detected and subsequent retained and then condemned from human consumption.

2. Outcome Type : Change in Action Outcome Measure

2008 : 15	**2009 :** 12	**2010 :** 12	**2011 :** 10	**2012 :** 8

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety

- 806 - Youth Development

1. Outcome Target

(Activity 1, 2, and 3) Administer packer surveys to determine if an improvement in product quality post-QA education has been noticed by the commercial packing industry.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
15	15	15	15	15

3. Associated Knowledge Area(s)

- 308 - Improved Animal Products (Before Harvest)
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety

1. Outcome Target

(Activity 1 and 2) Determining areas of violation will continue to help us emphasize key areas that youth need to comprehend and understand.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
100	100	100	100	100

3. Associated Knowledge Area(s)

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 315 - Animal Welfare/Well-Being and Protection
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety
- 806 - Youth Development

1. Outcome Target

(Activity 1, 2, and 3) Survey producers that began their education in QA programming as a youth exhibitor and determine the impact that has had on there production practice today. Further compare and contrast their efforts with those producers who did not learn about QA from a youth based extension program.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
50	50	100	100	200

3. Associated Knowledge Area(s)

- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 315 - Animal Welfare/Well-Being and Protection
- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 723 - Hazards to Human Health and Safety
- 806 - Youth Development

1. Outcome Target

(Activity 1, 2, and 3) Assuring that youth comprehend QA principles will increase the number of Livestock producers in the future that will be assuring consumers that they are receiving a safe wholesome product from the food producing animal industry.

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
200	200	200	200	200

3. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations

Description

The Ohio Department of Agriculture mandates that quality assurance curriculum is offered to youth food producing animal producers in the state of Ohio yearly. This requirement may change in the future, thus effecting our state mandated requirement for delivery of QA programming.

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- On-Site
- Whole population
- Mail

Description

{NO DATA ENTERED}