2014 University of Wisconsin Extension Plan of Work

Status: Accepted

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I. Plan Overview

1. Brief Summary about Plan Of Work

University of Wisconsin-Extension Cooperative Extension applies university knowledge and research to meet the needs of citizens and communities. As Wisconsin grows more ethnically diverse, this diversity both enhances and challenges communities. Extension partners with local, state, tribal and regional organizations, farmers, consumers, business owners and entrepreneurs, support services, coalitions, decision makers, and public and tribal government agencies to develop educational initiatives that build on the strengths of diverse communities.

The 2014-2018 Wisconsin Cooperative Extension federal plan of work describes how statewide interdisciplinary campus and county faculty, staff and colleagues provide research-based education and assistance to sustain and grow the state's vital agricultural economy across NIFA priorities:
1. Global Food Security Food Availability: Crops and Agronomic Plants
2. Global Food Security Food Availability: Dairy and Livestock
3. Global Food Security and Hunger: Food Accessibility
4. Food Safety
5. Childhood Obesity
6. Climate Change
7. Sustainable Energy

1. Global Food Security Food Availability: Crops and Agronomic Plants

Wisconsin ranks first in the nation for cranberry and oats production and third sweet corn for processing. The value of the combined corn, soybeans and small grains production was almost $4 billion in 2012. Commercial vegetables such as potatoes, carrots, peas and beans are grown on sandy soils where drinking water is dwindling. Consumers seek more local fruits, vegetables and specialty crops produced with sustainable methods. The economic and environmental sustainability and profitability of individual food crop enterprises is closely linked to crop management decision-making and the use of economically sound production practices. The complexity of food crop production systems requires an integrated management approach.

For 2014, Wisconsin Cooperative Extension campus faculty and staff at the University of Wisconsin-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point and 11 agricultural research stations will work with extension agriculture and community resource development agents in 72 counties to address critical and emerging issues faced by grains, vegetable, fruit and specialty crop growers and those who serve them in the areas of food crop agronomy, soil and nutrient management, Integrated Pest Management systems, market economics and enterprise profitability. Integrated research and extension programs are identifying and communicating best management practices for the Great Lakes Region, from selecting hardy, palatable, disease and pest resistant varieties through harvest, storage and distribution. Statewide interdisciplinary teams also recognize growing consumer demand and acreage of organic production, and are targeting integrated research and extension education and assistance toward strengthening the sustainability of organic crop production and marketing including preserving farmland for the future.

Growers adopting best management recommendations are maintaining top yields while cutting production costs and protecting the environment.

The audience includes North Central Region colleagues, agricultural professionals and other educational partners, grains, commercial vegetable, fruit and specialty crop growers and workers, 4-H and FFA youth, grower associations, food processors and entrepreneurs, food coalitions and cooperatives, agricultural service providers, agronomic retail and wholesale suppliers, local and regional economic development initiatives, local and tribal officials, planning commissions, state and federal rural development and regulatory agencies, and others. Thousands of agricultural professionals from Wisconsin, Minnesota, Iowa, Illinois, Indiana and Michigan who attend the annual Wisconsin Crop Management Conference produce a large multiplier effect as Wisconsin Cooperative Extension research-based recommendations ultimately reach an increasing portion of the Great Lakes Region crop production sector including growers.

2. Global Food Security Food Availability: Dairy and Livestock

Wisconsin Cooperative Extension campus faculty and staff at the University of Wisconsin-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point and 11 agricultural research stations work with county extension agriculture educators to sustain and grow the state's vital $59.16 billion agricultural economy and the $26.5 billion dairy industry employing over 146,000 people at its heart. Wisconsin makes more cheeses than any other state. More than 11,490 dairy farms maintain 1.27 million milk cows, producing 27.2 billion pounds of milk in 2012. The average dairy cow generates about $21,000 a year in economic activity, which circulates throughout local communities. Livestock production encompasses beef and dairy beef, small ruminants (sheep and goats), swine, horses and poultry. Part-time production, small farms, hobbyists, and youth projects comprise a substantial portion of the Wisconsin animal agriculture industry. Extension colleagues, partners and trained volunteers provide timely research-based education and assistance to improve food availability through managing and minimizing losses due to animal diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the agriculture service and support industry, training the next generation of agricultural service providers, innovations and increased efficiencies in production.

While half of Wisconsin farmers are nearing retirement, most do not discuss farm succession plans with anyone. Wisconsin Cooperative Extension county agriculture agents and campus specialists deliver comprehensive regional Transferring the Farm in a High-Stakes Era workshops, providing research-based tips and tools for hundreds of farmers each year. Heart of the Farm and Annie's Project trainings reach hundreds more hard-to-reach women farm owners with farm succession planning. Providing education to assist with the succession of farm businesses and retaining on-farm jobs is extremely important in rural Wisconsin.

The audience includes extension colleagues, veterinarians, agricultural professionals and other educational partners, trained volunteers, youth and adult dairy and livestock producers and workers, cheesemakers, current and potential dairy sheep producers and artisan cheesemakers using sheep milk, meat and dairy food processors and entrepreneurs, forage growers and grazing networks, agricultural service providers, farm lenders, local and regional economic development initiatives, local and tribal officials, state and federal regulatory agencies, and others. In 2012, 3,993 Wisconsin youth enrolled in 4-H dairy cattle curricula and 1,001 enrolled in 4-H dairy goats curricula. Another 18,438 enrolled in 4-H beef, swine, sheep, meat goats, rabbits and poultry projects, many of them with the goal of producing a quality meat animal. Integrated campus faculty, staff and county extension agents are engaged in international and multi-state collaborations to increase sustainability of the global food supply by developing new and updated research-based recommendations for farm owners and managers nationwide and around the

world.

3. Global Food Security and Hunger: Food Accessibility

More than one in nine (11.3%) Wisconsin households are food insecure, meaning that they do not have sufficient access to enough affordable, healthy food to achieve an active and productive life. Another indicator of food-related hardship is the share of the population participating in the Supplemental Nutrition Assistance Program (SNAP - FoodShare in Wisconsin). Overall, the proportion of Wisconsin residents who participated in FoodShare increased substantially between 2000 and 2012, particularly as households continued to feel the economic effects of the recession. More than 1 million Wisconsin residents received FoodShare benefits at some time during 2012, accounting for nearly 20% of the state's population. Without FoodShare benefits, the percentage of food insecure households would probably have been even higher than the 11% reported.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus, county and regional colleagues, partners and trained volunteers, providing research-based education and assistance to improve food security by strengthening local food markets and systems, responding to growing consumer demand for sustainably produced local foods, building community capacity to increase access to healthy foods for vulnerable populations, and increasing household access to healthy foods for those in need.

Almost 300 farmers' markets are critical outlets for medium and small-scale agricultural producers in Wisconsin. These markets provide benefits not only to the farmers looking for important income opportunities, but also to the communities looking for fresh, healthy foods. Some markets also provide central city residents their only access to seasonal fruits and vegetables. Farmers' market managers play a vital role in the success and sustainability of small and medium-sized farms in Wisconsin. Providing successful markets for these growers to sell their products keeps them viable. Since 2006, Wisconsin Cooperative Extension county educators have been assessing the needs of farmers' market managers who are often volunteers, providing training, resources and support to improve managers' marketing and promotion skills so they can realize their markets' full potential.

Food insecurity can be offset when there are strong and widely used nutrition assistance programs such as food stamps, school breakfast, and summer feeding programs. To ensure that more Wisconsin children receive proven benefits of eating a healthy breakfast, Cooperative Extension partners with the Department of Public Instruction to help schools with breakfast programs increase their student participation, support other schools in starting breakfast programs, and share research-based resources.

The audience includes farmers' market managers, vendors and customers, small-scale producers, producer associations, food processors and entrepreneurs, gardeners and Master Gardener volunteers, food coalitions and cooperatives, hunger coalitions and task forces, food pantries and other community service providers, local and regional economic development initiatives, local and tribal governments, school boards, school food service directors, teachers and parents of school-age children, low-income women with infants and young children, Hmong and Spanish-speaking central city residents, state and federal agency personnel, and others.

4. Food Safety

Wisconsin is an important agricultural state. With a strong dairying industry, Wisconsin has more dairy

farms than any other state in the nation. Over 13,000 farms in Wisconsin produce the milk that goes into the cheese for which Wisconsin is famous. Wisconsin ranks high in the production of processed vegetables; being in the top five states in the nation in the production of green beans (snap beans), peas, corn, carrots, cranberries and potatoes for processing. Wisconsin ranks fourth in the country for fresh meat production. Wisconsin has a strong state meat inspection program which oversees the production of award winning processed meats produced in some of the 300-plus state-inspected meat processing plants. In addition there are over 145 federally-inspected meat processing establishments and another 60 with custom licenses. From small, family businesses to very large multi-plant facilities, all are tasked with the daily challenge of producing safe, high-quality foods. Wisconsin also has a vibrant "buy local" economy and small food processors are benefiting. In some cases, farmers wishing to add value to their crops are delving into the sale of canned pickles, salsas and other family-favorite products. Canned foods such as pickles, salsas and tomato-based products are referred to as acidified foods. Processed incorrectly, acidified canned foods are potentially hazardous - they present the risk of botulism poisoning.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus and county faculty and staff, colleagues, partners and trained volunteers providing research-based training and support to improve the safety of the food supply by helping youth and adult agricultural producers, meat, dairy and canned food processors adopt best practices and comply with government regulations. Many of Cooperative Extension's training efforts are in collaboration with the Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP). WDATCP specialists and supervisors work with Cooperative Extension educators to train personnel in the dairy, meat, and canned food industries. Unique programs such as the Master Cheese Maker program and newly established Master Meat Crafter Training Program provide a foundation for the manufacture of safe, high quality, award-winning products from Wisconsin manufacturers. Cooperative Extension also partnered with WDATCP to train and support processors of canned foods, both low-acid meats and vegetables and acidified foods such as pickles and salsas. Increasingly, acidified canned foods are being manufactured by smaller businesses seeking to add value to local agricultural products. Cooperative Extension, in partnership with WDATCP, developed and teaches an Acidified Canned Foods training for small processors. This training allows these businesses to meet a federal and state requirement for training prior to licensing. Through training and on-going support, Cooperative Extension supports these businesses as they develop new products and providing economic growth for local economies. Along with needed food safety trainings, a web site now helps small food processors navigate the course of "recipe to reality," providing convenient information on licensing and product testing, sample process forms, and contact information for process approval: http://www.foodsafety.wisc.edu/ssp_acidified_canned_food.html

The audience includes colleagues, veterinarians and other professionals, individuals, families, 4-H and FFA youth, school-age children and preschoolers, fresh market vegetable and fruit growers and sellers, large and small food processors and entrepreneurs, crop, dairy and livestock producers, producer associations, dairy food processors and artisan cheesemakers, natural, organic and conventional meat processors, local and regional economic development initiatives, local and tribal governments, state and federal regulatory agencies, and others preserving food safely and keeping the food supply safe and wholesome. To help meet the growing need for food safety education, 100 trained Master Food Preserver volunteers pledged to commit an average of 20 volunteer hours per year for 3 years - a total of 6,000 hours - in service to their communities as part of the Volunteer Master Food Preserver program.

5. Childhood Obesity

Illnesses related to obesity and lack of exercise, such as diabetes, cancer and heart disease, are shortening lives and driving up health care costs. Diet-linked diseases account for an estimated $250

billion each year in increased medical costs and lost productivity, according to the Center for Nutrition Policy and Promotion Strategic Plan. Childhood obesity has become a common health problem, especially among low-income populations. In 2010, 29% of 2- to 3-year-old children in the Wisconsin Supplemental Nutrition Program for Women, Infants and Children (WIC) were overweight or obese. Studies show that more than half of obese children become overweight at or before age two. Mothers most often are the dominant influence on children's food consumption and dietary habits. Positive modeling is key to preventing childhood obesity as children's food preferences mirror those of their mothers. In children as young as 2 years old, food preferences were associated with those of their mothers. Effective research-based interventions that are practical to implement and sustain are needed to prevent obesity among preschoolers, helping parents and others help young children develop healthy behaviors.

For 2014, Wisconsin Cooperative Extension plans collaboration among Family Living Programs campus and county faculty and staff, colleagues and partners providing research-based education and assistance for preventing childhood obesity through developing and implementing behavioral interventions that improve nutrition and increase physical activity, as well as building capacity among colleagues and communities to address issues related to preventing childhood obesity. Education and assistance that help preschoolers develop healthy eating and physical activity behaviors will improve children's health and ability to learn, and reduce childhood obesity. Diverse participants will make informed, science-based decisions regarding nutrition, health and physical activity. These improvements will lead to decreased health care costs for families and the state BadgerCare program, and contribute to a productive workforce in the future.

Wisconsin Cooperative Extension nutrition education programs such as the Supplemental Nutrition Assistance Program (SNAP-Ed) provide keys to better health by showing people how to eat better and incorporate healthy activity into their lives. Extension educators reach diverse audiences through a variety of methods from home visits to classes and activities at community centers, festivals and fairs. The audience includes colleagues and other professionals, diverse children and youth, caregivers, parents and family members, local and tribal officials, public and private collaborating and community agencies, child care providers, teachers, school districts, administrators, tribal, state and federal agencies and others in a variety of educational settings to reach under-represented audiences including low-income Latino/a, African American, American Indian and Hmong parents, families and youth, translating and interpreting as needed.

6. Climate Change

Climate change has a variety of impacts on communities, agriculture, natural resources, local economies and human health. Despite the complexity and associated challenges, communities and agencies find themselves having to adapt to immediate climate impacts and needing to plan for future climate scenarios. As these planning processes move forward, it is important to provide professionals and community leaders with locally relevant, science-based climate information. Information and guidance are also needed for choosing among methods for incorporating new climate information into economic development and resource management planning processes.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus and county faculty and staff, tribal, regional and national colleagues, partners and trained volunteers providing timely research-based education and assistance to adapt to and mitigate climate change impacts through developing, implementing and evaluating outreach programs to reduce carbon, nitrogen, energy and water footprints and identify climate vulnerabilities in their communities. Supporting this work is the Wisconsin Initiative on Climate Change Impacts. Regional Climate Impacts Workshops provide the latest climate science,

examples of Great Lakes community vulnerabilities, climate planning processes and strategies, planning tools and resources for planners and other professionals working on land use, public health, stormwater, emergency preparedness, utilities, and natural resource management. This curriculum is also presented at workshops reaching Wisconsin professionals and community leaders with specific climate information tailored to their disciplines and communities.

Improving nutrient management practices improves farm profitability and reduces harmful effects of nitrogen and phosphorus on water quality. This can likewise reduce a harmful byproduct of climate mediated excess soil moisture -- emissions of the greenhouse gas nitrous oxide into the atmosphere. As a result of extension Nutrient Management Farmer Education, by 2012 at least 1,033,000 acres of cropland and grazing land farmed in 53 counties by the 4,156 producers were covered under a nutrient management plan that meets all local, state and federal regulations. The farmer benefit value was at least $7.2 million for these plans, which also qualified farmers for another $2.6 million in tax credits.

Wisconsin Cooperative Extension campus specialists collaborate with county extension faculty and staff, state urban and regional planning, tribal, national and international colleagues to research and align best practices and stakeholder involvement in making informed decisions to meet local needs. The audience includes colleagues and other professionals, growers and grower associations, Certified Crop Advisors, custom manure applicators and other agricultural service providers, coalitions and cooperatives, community leaders, business owners, local elected officials, town, city, county and tribal governments, state and federal agencies, local planning departments and regional planning commissions, utilities, school districts, economic development practitioners, the news media, and diverse individuals, youth and families.

7. Sustainable Energy

Wisconsin Cooperative Extension campus and county faculty and staff are conducting integrated research and extension programs, building capacity for scalable, sustainable energy among extension colleagues and communities. Cooperative Extension educators in both agriculture and community development program areas are being called on to respond to questions about bioenergy and sustainable renewable energy. Farmers and foresters are interested in supplying feedstocks to the bioenergy industry as a potential alternative market and source of revenue. Communities are interested in developing renewable energy industries for energy independence, job creation, and economic development. Northern Wisconsin's forests and farmlands offer a rich supply of herbaceous and woody biomass. Recognizing the feedstock availability, a number of companies have announced plans to establish or expand their use of woody biomass for energy production. As another region rich in renewable resources, rural Southwest Wisconsin also has an opportunity to create new jobs and develop renewable energy both for use within the 9-county region as well as to supply nearby urban areas.

The audience includes regional and national colleagues, municipalities, regional planning commissions, regulated and unregulated utilities, liquid biofuels, anaerobic digester and biomass conversion technology firms, biomass producers and aggregators, food processors, food services, school districts, loggers, procurement foresters, wood products professionals, haulers, farmers, business owners, woodland owners, recycling volunteers, local and regional economic development initiatives, public and private agencies, government and tribal officials.

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

Year	Extension		Research	
	1862	1890	1862	1890

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Year	Extension		Research	
	1862	1890	1862	1890
2014	95.0	0.0	0.0	0.0
2015	95.0	0.0	0.0	0.0
2016	95.0	0.0	0.0	0.0
2017	95.0	0.0	0.0	0.0
2018	95.0	0.0	0.0	0.0

II. Merit Review Process

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

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

2. Brief Explanation

Merit review is ongoing as statewide self-directed teams develop specifics for implementing and evaluating planned programs. At the state level, program area administrators review and oversee team programming. Teams co-chaired by campus and county faculty set the direction for their initiatives, complete a statewide team plan of work, develop research-based educational resources, evaluate and report progress toward planned outcomes.

Merit reviews are conducted jointly by team leaders and program directors. Teams use reviewers' recommendations to improve program quality and relevance for the intended audience, and include review comments in annual accomplishment reports and plans of work.

UW-Extension Cooperative Extension curricula and publications are peer reviewed by research and extension faculty, government or industry colleagues and professionals as appropriate to the content, purpose and intended audience. Translations are also reviewed for cultural appropriateness. Scholarly peer review and cultural review assure the quality and relevance of educational materials and outreach scholarship.

At the county level, local programming addresses priority issues identified through strategic program planning. Local elected officials review county programs as part of their oversight of extension programming.

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?

The University of Wisconsin-Extension Cooperative Extension 2014-2018 federal plan of work outlines seven planned programs reporting work from among Wisconsin Cooperative Extension's interdisciplinary and cross-program area statewide teams. These teams are co-chaired by campus-based specialists and community-based educators. Structuring team leadership in this manner is intentional, building relationships and linkages among communities of research interest, communities of practice, and communities of locale. Teams develop plans focused on interests that cut across these communities. They do so from the point of issue identification and priority-setting, to resource commitment, plan implementation and evaluation. This same approach applies to multi-state and joint research and extension activities, whether regional or national.

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

UW-Extension Cooperative Extension statewide program teams implement a variety of approaches to assess and address the needs of Wisconsin's under-served and under-represented populations. When appropriate, teams develop culturally sensitive educational strategies; translate and review educational materials for cultural relevance; and partner with agencies and groups representing and supporting under-served and under-represented populations. Statewide team efforts accord with the local context, where all 72 Wisconsin county extension offices have civil rights plans designed to reach traditionally under-served audiences.

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

Outcomes and impacts of each of the seven planned programs are specified in the individual 2014-2018 plans that follow. Directors of Wisconsin Cooperative Extension's four program areas - Agriculture and Natural Resources Extension, Community, Natural Resource and Economic Development, Family Living Programs and 4-H Youth Development - are all working with their regional counterparts in other states to define outcomes and indicators of common interest. Their work will provide the foundation for evaluating multi-state and joint research and extension efforts.

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

- Multi-state and joint activities will result in improved program effectiveness and/or efficiencies if they adhere to the following principles.
- They must be developed from the ground up with significant staff involvement. Ultimately staff members are the ones who will have to provide leadership for multi-state and joint efforts.
- Collaborations should be developed as win-win options that result in more effective research and programming, and not as a strategy to meet budget reductions.
- An inventory of current and expected capacities needs to be developed across state lines before alternative multi-state approaches can be established. Both extension and research capacities, along with audience needs and relationships, need to be considered when establishing multi-state collaborations.
- Coordinating mechanisms, memoranda of understanding, expectations, and specific roles

and responsibilities, must be clearly articulated.

IV. Stakeholder Input

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

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Other (Meeting specifically with non-traditional groups)

Brief explanation.

University of Wisconsin-Extension Cooperative Extension initiates multi-year planning processes. Extension's program development model provides the overall framework for soliciting, analyzing, and summarizing stakeholder input. The model includes situation analysis, priority-setting, inputs, outputs, anticipated outcomes and evaluation planning. Campus and county faculty and staff participate in regular grower, producer, consumer, network, community, school, government, business and community coalition meetings to stay informed of key stakeholders' changing needs.

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

1. Method to identify individuals and groups

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

Brief explanation.

Stakeholder identification and involvement are key components of the UW-Extension Cooperative Extension planning processes. While county offices have latitude in tailoring their planning process to their unique needs, they are strongly encouraged to use methods that solicited feedback from their communities' diverse populations and from both internal and external stakeholders of Cooperative Extension. Ongoing county civil rights reviews examine the methods used during the stakeholder identification phase and formulate recommendations intended to strengthen this aspect in future planning initiatives.

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

1. Methods for collecting Stakeholder Input

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

Brief explanation.

Input has been gathered from diverse and under-represented audiences statewide through focus groups, interviews, listening sessions and case studies of youth-adult partnerships. When appropriate, teams develop culturally sensitive educational strategies; translate and review educational materials for cultural relevance; and partner with agencies and groups representing and supporting under-served and under-represented populations. Statewide team efforts accord with the local context, where all 72 Wisconsin county extension offices have civil rights plans designed to reach traditionally under-served audiences.

3. A statement of how the input will be considered

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

Brief explanation.

Results from stakeholder input identify priority issues. Planning is ongoing and continues to set direction for extension and research to address priority issues, for incorporation into budget and staffing decisions through statewide self-directed teams, and shape team implementation and evaluation plans as well as statewide federal plans of work.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security Food Availability: Crops and Agronomic Plants

2. Brief summary about Planned Program

Wisconsin ranks first in the nation for cranberry and oats production and third sweet corn for processing. The value of the combined corn, soybeans and small grains production was almost $4 billion in 2012. Commercial vegetables such as potatoes, carrots, peas and beans are grown on sandy soils where drinking water is dwindling. Consumers seek more local fruits, vegetables and specialty crops produced with sustainable methods. The economic and environmental sustainability and profitability of individual food crop enterprises is closely linked to crop management decision-making and the use of economically sound production practices. The complexity of food crop production systems requires an integrated management approach.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%			
133	Pollution Prevention and Mitigation	15%			
202	Plant Genetic Resources	5%			
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%			
205	Plant Management Systems	10%			
216	Integrated Pest Management Systems	20%			
601	Economics of Agricultural Production and Farm Management	10%			
608	Community Resource Planning and Development	10%			
	Total	100%			

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

1. Situation and priorities

Wisconsin ranks third in the nation for production of sweet corn for processing, growing more than 73,000 acres annually, nearly one-fifth (20%) of total U.S. processing sweet corn acreage (USDA, 2013). Other Wisconsin processing crops include potatoes, carrots, snap beans, dry beans, and peas. Wisconsin is also a major cash grain producer, ranking first among the states for oat production, seventh for corn and thirteenth for soybeans. Wisconsin's 3.3 million acres of corn and 1.70 million acres of soybeans plus small grains were valued at almost $4 billion as of 2012. Cranberry growers continue to expand production and consolidate the state's number one position in the industry despite a prolonged period of low prices and minimal profit margins. Fruit crop values include cranberries at $231 million, 410 growers; apples $13.4 million, 935 growers; strawberries $5 million, 455 growers; and cherries $1.9 million, 25 growers.

An important consideration for growers is the opportunity to develop a niche market that will distinguish their product for their retail customers. While some early adopters may readily regard Integrated Pest Management as a marketing opportunity, fear regarding the salability of IPM crops has been cited as an obstacle to the adoption of IPM practices. A growing consumer trend is an increased demand for local products produced with sustainable methods. Recently developed global principles and criteria help form regional production standards that if met by producers, result in an eco-label on the product for marketplace awareness. This sustainable or "green" label concept is similar to an organic label in that it is used to convey production information and requires independent certification to verify the accuracy of the information.

The economic and environmental sustainability and profitability of individual food crop enterprises is closely linked to crop management decision-making and the use of economically sound production practices. Economic efficiency is improved when growers have the knowledge to select among available tools to address both crop challenges and opportunities effectively. Cooperative Extension is uniquely positioned to provide current on-farm research-based and field-tested information to assist Wisconsin

growers and those who serve them in evaluating these tools and making choices appropriate to their individual operations and goals. Providing educational training to colleagues and other professionals results in a large multiplier effect as Wisconsin Cooperative Extension research-based recommendations ultimately reach an increasing portion of the Great Lakes Region crop production sector including growers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

The purpose of the integrated approach of state specialists and county-based educators is to educate Wisconsin agricultural producers and those who serve them throughout the food supply chain. Wisconsin Cooperative Extension colleagues and partners improve global food availability of crops and agronomic plants through managing and minimizing losses due to plant pests and diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the Great Lakes Region agriculture service and support industry, innovations and increased efficiencies in production, and preserving farmland for long-term sustainability.

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
2014	23.0	0.0	0.0	0.0
2015	23.0	0.0	0.0	0.0
2016	23.0	0.0	0.0	0.0
2017	23.0	0.0	0.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2018	23.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among interdisciplinary colleagues and partners providing timely research-based education and assistance to improve food availability of crops and agronomic plants through managing and minimizing losses due to plant pests and diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the Great Lakes Region agriculture service and support industry, innovations and increased efficiencies in production, and preserving farmland for long-term sustainability.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (News media releases)
● Other 1 (Train-the-trainer and on-farm)	● Other 2 (Web-based training)
● Other 2 (State, regional and national con)	

3. Description of targeted audience

The audience includes North Central Region colleagues, agricultural professionals and other educational partners, grains, commercial vegetable, fruit and specialty crop growers and workers, 4-H and FFA youth, grower associations, food processors and entrepreneurs, food coalitions and cooperatives, agricultural service providers, agronomic retail and wholesale suppliers, local and regional economic development initiatives, local and tribal officials, planning commissions, state and federal rural development and regulatory agencies, and others. Thousands of agricultural professionals from Wisconsin, Minnesota, Iowa, Illinois, Indiana and Michigan who attend the annual Wisconsin Crop Management Conference produce a large multiplier effect as Wisconsin Cooperative Extension research-based recommendations ultimately reach an increasing portion of the Great Lakes Region crop production sector including growers.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Manage and minimize the loss due to plant pests and/or diseases.
2	Enhance the economic and environmental sustainability of agribusiness.
3	Build the capacity of the agriculture service and support industry.
4	Innovations and increased efficiencies in production.

Outcome # 1

1. Outcome Target

Manage and minimize the loss due to plant pests and/or diseases.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Enhance the economic and environmental sustainability of agribusiness.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Build the capacity of the agriculture service and support industry.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Innovations and increased efficiencies in production.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

Description

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation purpose:

The purpose of planned evaluation is to determine the effectiveness of Nutrient Management Team educational programming to change agricultural management practices of Wisconsin farms. The results will be used to refine educational programming to meet policy makers' goals for phosphorous and water quality while enhancing farm management profitability.

Evaluation questions:

As a result of Wisconsin Cooperative Extension education and assistance,
Are nutrient management plans being developed and implemented?
Are dairy animal diets matching National Research Council recommendations?
Are more soil tests in the optimal range?
Are soil loss estimates below tolerable levels?
Are certified custom applicators using best management practices?
Is there a reduction of manure spills reaching surface water?

Methods:

Evaluation methods to be used are preliminary. The Evaluation Leadership Support Team will work with the Nutrient Management Team to determine appropriate methodologies.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Global Food Security Food Availability: Dairy and Livestock

2. Brief summary about Planned Program

Wisconsin Cooperative Extension campus faculty and staff at the University of Wisconsin-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point and 11 agricultural research stations work with county extension agriculture educators to sustain and grow the state's vital $59.16 billion agricultural economy and the $26.5 billion dairy industry employing over 146,000 people at its heart. Wisconsin makes more cheeses than any other state. More than 11,490 dairy farms maintain 1.27 million milk cows, producing 27.2 billion pounds of milk in 2012. The average dairy cow generates about $21,000 a year in economic activity, which circulates throughout local communities. Livestock production encompasses beef and dairy beef, small ruminants (sheep and goats), swine, horses and poultry. Part-time production, small farms, hobbyists, and youth projects comprise a substantial portion of the Wisconsin animal agriculture industry. Extension colleagues, partners and trained volunteers provide timely research-based education and assistance to improve food availability through managing and minimizing losses due to animal diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the agriculture service and support industry, training the next generation of agricultural service providers, innovations and increased efficiencies in production.

While half of Wisconsin farmers are nearing retirement, most do not discuss farm succession plans with anyone. Wisconsin Cooperative Extension county agriculture agents and campus specialists deliver comprehensive regional Transferring the Farm in a High-Stakes Era workshops, providing research-based tips and tools for hundreds of farmers each year. Heart of the Farm and Annie's Project trainings reach hundreds more hard-to-reach women farm owners with farm succession planning. Providing education to assist with the succession of farm businesses and retaining on-farm jobs is extremely important in rural Wisconsin.

The audience includes extension colleagues, veterinarians, agricultural professionals and other educational partners, trained volunteers, youth and adult dairy and livestock producers and workers, cheesemakers, current and potential dairy sheep producers and artisan cheesemakers using sheep milk, meat and dairy food processors and entrepreneurs, forage growers and grazing networks, agricultural service providers, farm lenders, local and regional economic development initiatives, local and tribal officials, state and federal regulatory agencies, and others. In 2012, 3,993 Wisconsin youth enrolled in 4-H dairy cattle curricula and 1,001 enrolled in 4-H dairy goats curricula. Another 18,438 enrolled in 4-H beef, swine, sheep, meat goats, rabbits and poultry projects, many of them with the goal of producing a quality meat animal. Integrated campus faculty, staff and county extension agents are engaged in international and multi-state collaborations to increase sustainability of the global food supply by developing new and updated research-based recommendations for farm owners and managers nationwide and around the world.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%			
307	Animal Management Systems	15%			
308	Improved Animal Products (Before Harvest)	10%			
311	Animal Diseases	5%			
315	Animal Welfare/Well-Being and Protection	5%			
601	Economics of Agricultural Production and Farm Management	20%			
602	Business Management, Finance, and Taxation	15%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%			
806	Youth Development	10%			
	Total	100%			

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

1. Situation and priorities

Wisconsin Cooperative Extension colleagues, partners and trained volunteers provide research-based education and assistance to sustain and grow the state's vital agricultural economy - and the $26.5 billion dairy industry employing over 146,000 people at its heart. Wisconsin makes more cheeses than any other state. More than 11,490 dairy farms maintain 1.27 million milk cows, producing 27.2 billion pounds of milk in 2012. The average dairy cow generates about $21,000 a year in economic activity, which circulates throughout local communities. Wisconsin is home to the largest number of dairy sheep operations in the country and the only dairy sheep research facility in North America. The dairy sheep industry and sheep milk products are gaining recognition - pure sheep milk and mixed milk cheeses are winning national competitions. Livestock production encompasses beef and dairy beef, small ruminants (sheep and goats), swine, horses and poultry. Part-time production, small farms, hobbyists, and youth projects also comprise a substantial portion of the Wisconsin animal agriculture industry.

While Wisconsin produces more cheese than any other state, dairy processors must import milk to do so. Wisconsin dairies produce only 90% of milk needed to make more than 600 award-winning artisan cheeses. In 2012, the Wisconsin Department of Agriculture, Trade and Consumer Protection is accepting grant applications for the new Grow Wisconsin Dairy 30x20 program to improve long-term viability of Wisconsin's dairy industry through services to help farmers achieve an annual milk production of 30 billion pounds by 2020 to meet growing demand -- keeping state cheese plants running with locally produced milk. Each dairy farm has unique animals, facilities and resource bases (land, etc.) that require specific management practices. As producers struggle to make management changes, how can they best cut production costs and reduce losses? For example, both clinical and subclinical mastitis result in financial losses. Increased treatment costs and greater cull rates, reduced milk production, reproductive

performance and longevity, and lower cheese yields are well-documented losses due to mastitis (Lago et al, 2011). In Wisconsin, milk production loss due to subclinical mastitis costs about $4 per cow per day (Rodrigues et al, 2005). Thus a typical 100-cow herd (33% with subclinical mastitis) loses about $4,000 per month.

The 2007 Census of Agriculture reported that half of Wisconsin farmers identified as principal operators were 55 years old or older. Recent research in Wisconsin, Iowa, Pennsylvania, New Jersey, North Carolina, Tennessee, Virginia, and California shows that few farmers have identified a successor or developed farm business succession plans, nor have most discussed their retirement or succession plans with anyone. Further, farmers can no longer just draft a simple will to transfer ownership to their children. Successfully transferring the farm business to the next generation takes place over a number of years, requiring trust, a sound financial footing, good planning and communication as families face an increasingly volatile agriculture economy.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

The purpose of the integrated approach of state specialists and county-based educators is to educate Wisconsin agricultural producers and those who serve them throughout the food supply chain. Wisconsin Cooperative Extension colleagues and partners improve global food availability of dairy and livestock through managing and minimizing losses due to animal diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the agriculture service and support industry, training the next generation of agricultural service providers, innovations and increased efficiencies in production.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2014	33.0	0.0	0.0	0.0
2015	33.0	0.0	0.0	0.0
2016	33.0	0.0	0.0	0.0
2017	33.0	0.0	0.0	0.0
2018	33.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among interdisciplinary colleagues, partners and trained volunteers providing timely research-based education and assistance to improve food availability of dairy and livestock through managing and minimizing losses due to animal diseases, enhancing economic and environmental sustainability of agribusinesses, building the capacity of the agriculture service and support industry, training the next generation of agricultural service providers, innovations and increased efficiencies in production.

In preparation for today's specialized careers in agriculture, youth must understand their many options for gaining experience and obtaining the education needed to attain their chosen career. Wisconsin Cooperative Extension 4-H Youth Development outreach staff coordinate the annual National 4-H Dairy Conference in collaboration with a national committee of dairy specialists, industry leaders, recent alumni youth, and 4-H dairy project volunteers. All youth delegates explore careers while attending seminars on the UW-Madison College of Agricultural and Life Sciences campus, sparking an interest in attending this or another college to pursue a specialized educational degree for a career in agriculture.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (News media releases)
● Other 1 (Train-the-trainer and on-farm)	● Other 2 (Web-based training)
● Other 2 (State, regional and national con)	

3. Description of targeted audience

The audience includes extension colleagues, veterinarians, agricultural professionals and other educational partners, trained volunteers, youth and adult dairy and livestock producers and workers, cheesemakers, current and potential dairy sheep producers and artisan cheesemakers using sheep milk, meat and dairy food processors and entrepreneurs, forage growers and grazing networks, agricultural

service providers, farm lenders, local and regional economic development initiatives, local and tribal officials, state and federal regulatory agencies, and others. In 2012, 3,993 Wisconsin youth enrolled in 4-H dairy cattle curricula and 1,001 enrolled in 4-H dairy goats curricula. Another 18,438 enrolled in 4-H beef, swine, sheep, meat goats, rabbits and poultry projects, many of them with the goal of producing a quality meat animal. Integrated campus faculty, staff and county extension agents are engaged in international and multi-state collaborations to increase sustainability of the global food supply by developing new and updated research-based recommendations for farm owners and managers nationwide and around the world.

University of Wisconsin-Extension Cooperative Extension colleagues are connected by email ListServ, blogs and online newsletters, shared resources such as statewide and national teleconferences, webinars, eXtension Communities of Practice, and the Extension Disaster Education Network (EDEN) to quickly address critical and emerging issues. Interdisciplinary colleagues and other professionals in this network include researchers at the UW-Madison College of Agricultural and Life Sciences and Discovery Farms, UW-Platteville Pioneer Farm, UW-River Falls, UW-Stevens Point, 11 agricultural research stations, and the USDA Dairy Forage Research Center.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Manage and minimize the loss due to animal disease.
2	Enhance the economic and environmental sustainability of agribusinesses.
3	Build the capacity of the agriculture service and support industry.
4	Innovations and increased efficiencies in production.

Outcome # 1

1. Outcome Target

Manage and minimize the loss due to animal disease.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Enhance the economic and environmental sustainability of agribusinesses.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Build the capacity of the agriculture service and support industry.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Innovations and increased efficiencies in production.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection
- 601 - Economics of Agricultural Production and Farm Management
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation purpose:

The purpose of planned evaluation is to determine the impact and return on investment of dairy farm management advisory teams on the functioning and health of participating dairy farm businesses. Results will be used by Wisconsin Cooperative Extension, the Wisconsin Department of Agriculture, Trade and Consumer Protection, and other decision makers to determine whether to continue the program (funding and time invested in the program).

Evaluation questions:

As a result of the farm management advisory team program, did milk production increase?

As a result of the farm management advisory team program, did farm business health improve?

Financial (profitability, liquidity, solvency, cost control)?

Operational changes to improve production practices and efficiencies?

Farm transfer?

Quality of life?

Management skills (employee management, relationships, family)?

Jobs created?

As a result of the farm management advisory team program, were investments made by farm businesses (expansion, modernization, operational changes, etc.)?

As a result of the farm management advisory team program, what advisory team investments were made to achieve improvements (number of teams, advisory team time invested, etc.)?

Methods:

Evaluation methods to be used are preliminary. The Evaluation Leadership Support Team will work with the Dairy Team to determine appropriate methodologies.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Global Food Security and Hunger: Food Accessibility

2. Brief summary about Planned Program

More than one in nine (11.3%) Wisconsin households are food insecure, meaning that they do not have sufficient access to enough affordable, healthy food to achieve an active and productive life. Another indicator of food-related hardship is the share of the population participating in the Supplemental Nutrition Assistance Program (SNAP - FoodShare in Wisconsin). Overall, the proportion of Wisconsin residents who participated in FoodShare increased substantially between 2000 and 2012, particularly as households continued to feel the economic effects of the recession. More than 1 million Wisconsin residents received FoodShare benefits at some time during 2012, accounting for nearly 20% of the state's population. Without FoodShare benefits, the percentage of food insecure households would probably have been even higher than the 11% reported.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus, county and regional colleagues, partners and trained volunteers, providing research-based education and assistance to improve food security by strengthening local food markets and systems, responding to growing consumer demand for sustainably produced local foods, building community capacity to increase access to healthy foods for vulnerable populations, and increasing household access to healthy foods for those in need.

Almost 300 farmers' markets are critical outlets for medium and small-scale agricultural producers in Wisconsin. These markets provide benefits not only to the farmers looking for important income opportunities, but also to the communities looking for fresh, healthy foods. Some markets also provide central city residents their only access to seasonal fruits and vegetables. Farmers' market managers play a vital role in the success and sustainability of small and medium-sized farms in Wisconsin. Providing successful markets for these growers to sell their products keeps them viable. Since 2006, Wisconsin Cooperative Extension county educators have been assessing the needs of farmers' market managers who are often volunteers, providing training, resources and support to improve managers' marketing and promotion skills so they can realize their markets' full potential.

Food insecurity can be offset when there are strong and widely used nutrition assistance programs such as food stamps, school breakfast, and summer feeding programs. To ensure that more Wisconsin children receive proven benefits of eating a healthy breakfast, Cooperative Extension partners with the Department of Public Instruction to help schools with breakfast programs increase their student participation, support other schools in starting breakfast programs, and share research-based resources.

The audience includes farmers' market managers, vendors and customers, small-scale producers, producer associations, food processors and entrepreneurs, gardeners and Master Gardener volunteers, food coalitions and cooperatives, hunger coalitions and task forces, food pantries and other community service providers, local and regional economic development initiatives, local and tribal governments, school boards, school food service directors, teachers and parents of school-age children, low-income women with infants and young children, Hmong and Spanish-speaking central city residents, state and federal agency personnel, and others.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
205	Plant Management Systems	5%			
601	Economics of Agricultural Production and Farm Management	10%			
602	Business Management, Finance, and Taxation	5%			
604	Marketing and Distribution Practices	15%			
607	Consumer Economics	10%			
608	Community Resource Planning and Development	25%			
703	Nutrition Education and Behavior	15%			
704	Nutrition and Hunger in the Population	15%			
	Total	100%			

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

1. Situation and priorities

In an ideal world, adequate amounts of nutritious food should be consumed by every inhabitant of the planet. Given the wealth of arable land, production capacity, know-how, and other ingredients, this vision should be readily achievable by a nation such as the United States. Yet USDA indicates that 17 million households were food insecure throughout 2008. A substantial portion of the U.S. population does not have access to and is not consuming healthy food. Negative consequences are most acute in poor communities.

More than one in nine (11.3%) Wisconsin households are food insecure, meaning that they do not have sufficient access to enough affordable, healthy food to achieve an active and productive life. Another indicator of food-related hardship is the share of the population participating in the Supplemental Nutrition Assistance Program (SNAP - FoodShare in Wisconsin). Overall, the proportion of Wisconsin residents who participated in FoodShare increased substantially between 2000 and 2012, particularly as households continued to feel the economic effects of the recession. More than 1 million Wisconsin residents received FoodShare benefits at some time during 2012, accounting for nearly 20% of the state's population. Without FoodShare benefits, the percentage of food insecure households would probably have been even higher than the 11% reported.

While food insecurity is closely linked to poverty, community characteristics, economic assistance policies,

and the availability and use of public and private resources also play an important role. Factors that contribute to achieving household and community food security include family and economic well-being, access to affordable healthy foods, federal nutrition assistance programs, and emergency food assistance programs.

Food insecurity can be offset when there are strong and widely used nutrition assistance programs such as food stamps, school breakfast, and summer feeding programs. Nutrition research shows that children who eat breakfast demonstrate both increased ability to learn, as well as improved behavior in the classroom. Eating breakfast improves their mood, decreases their risk of being overweight, and enhances the quality of their diet. Yet many Wisconsin children still miss breakfast daily, due to lack of time, limited household income or because they do not have access to breakfast at school. Regardless of household income, any school-age child can participate in a School Breakfast Program -where one is available. In the 2003-2004 school year, Wisconsin ranked last in the nation, with only 47.2% of the schools offering lunch also offering breakfast, and reaching only 24.8% of the low-income students. Since then, Wisconsin Cooperative Extension Family Living Programs, the Department of Public Instruction, and the Wisconsin Milk Marketing Board have partnered to improve breakfast access for more low-income children in more schools. In the 2011-2012 school year, we had 71.2% of schools offering breakfast and reached 43.6% of our low-income students. We have shown steady increases in school participation as well as student participation over the past eight years. The number of students eating breakfast in all categories (free, reduced-price, and paid) has increased from approximately 73,000 in 2003-2004 to over 170,000 in 2011-2012.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

The purpose of the integrated approach of state specialists and county-based educators is to educate Wisconsin communities, agricultural producers and those who serve them throughout the food supply chain. Wisconsin Cooperative Extension campus, county and reginal colleagues, partners and trained volunteers improve food security through strengthening local food markets and systems, responding to growing consumer demand for sustainably produced local foods, building community capacity to increase access to healthy foods for vulnerable populations, and increasing household access

to healthy foods for those in need.

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
2014	15.0	0.0	0.0	0.0
2015	15.0	0.0	0.0	0.0
2016	15.0	0.0	0.0	0.0
2017	15.0	0.0	0.0	0.0
2018	15.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among campus, county and regional colleagues, partners and trained volunteers, providing research-based education and assistance to improve food security by strengthening local food markets and systems, responding to growing consumer demand for sustainably produced local foods, building community capacity to increase access to healthy foods for vulnerable populations, and increasing household access to healthy foods for those in need.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (News media releases)
● Other 1 (Train-the-trainer and micro-farm)	● Other 2 (Web-based training)
● Other 2 (State, regional and National con)	

3. Description of targeted audience

The audience includes farmers' market managers, vendors and customers, small-scale producers, producer associations, food processors and entrepreneurs, gardeners and Master Gardener volunteers, food coalitions and cooperatives, hunger coalitions and task forces, food pantries and other community service providers, local and regional economic development initiatives, local and tribal governments, school boards, school food service directors, teachers and parents of school-age children, low-income women with infants and young children, Hmong and Spanish-speaking central city residents, state and federal agency personnel, and others.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Strengthen local food markets and systems.
2	Increase household access to healthy foods for vulnerable populations

Outcome # 1

1. Outcome Target

Strengthen local food markets and systems.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Increase household access to healthy foods for vulnerable populations

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 607 - Consumer Economics
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

Description

Public policy changes: A significant portion of Wisconsin cropland is being planted to corn ultimately used for ethanol production. If corn prices were not so high, would more fruit and vegetables be produced and available locally?

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation purpose:

The purpose of planned evaluation is to determine the impact of Wisconsin Cooperative Extension efforts in community and youth gardens. The evaluation results will be used to inform future programming efforts, such as identifying best practices and enhanced networking with other organizations supporting community gardens.

Evaluation questions and methods:

Three case studies will be implemented during fall 2012. The case studies will provide the basis for a more comprehensive evaluation of Wisconsin Cooperative Extension community gardens programming. The case studies will:

(1) Capture in-depth descriptions of garden-based programming;
(2) Measure, assess, and describe programming impacts and outcomes; and
(3) Contribute to the design of a statewide evaluation of garden-based programming.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

Wisconsin is an important agricultural state. With a strong dairying industry, Wisconsin has more dairy farms than any other state in the nation. Over 13,000 farms in Wisconsin produce the milk that goes into the cheese for which Wisconsin is famous. Wisconsin ranks high in the production of processed vegetables; being in the top five states in the nation in the production of green beans (snap beans), peas, corn, carrots, cranberries and potatoes for processing. Wisconsin ranks fourth in the country for fresh meat production. Wisconsin has a strong state meat inspection program which oversees the production of award winning processed meats produced in some of the 300-plus state-inspected meat processing plants. In addition there are over 145 federally-inspected meat processing establishments and another 60 with custom licenses. From small, family businesses to very large multi-plant facilities, all are tasked with the daily challenge of producing safe, high-quality foods. Wisconsin also has a vibrant "buy local" economy and small food processors are benefiting. In some cases, farmers wishing to add value to their crops are delving into the sale of canned pickles, salsas and other family-favorite products. Canned foods such as pickles, salsas and tomato-based products are referred to as acidified foods. Processed incorrectly, acidified canned foods are potentially hazardous - they present the risk of botulism poisoning.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus and county faculty and staff, colleagues, partners and trained volunteers providing research-based training and support to improve the safety of the food supply by helping youth and adult agricultural producers, meat, dairy and canned food processors adopt best practices and comply with government regulations. Many of Cooperative Extension's training efforts are in collaboration with the Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP). WDATCP specialists and supervisors work with Cooperative Extension educators to train personnel in the dairy, meat, and canned food industries. Unique programs such as the Master Cheese Maker program and newly established Master Meat Crafter Training Program provide a foundation for the manufacture of safe, high quality, award-winning products from Wisconsin manufacturers. Cooperative Extension also partnered with WDATCP to train and support processors of canned foods, both low-acid meats and vegetables and acidified foods such as pickles and salsas. Increasingly, acidified canned foods are being manufactured by smaller businesses seeking to add value to local agricultural products. Cooperative Extension, in partnership with WDATCP, developed and teaches an Acidified Canned Foods training for small processors. This training allows these businesses to meet a federal and state requirement for training prior to licensing. Through training and on-going support, Cooperative Extension supports these businesses as they develop new products and providing economic growth for local economies. Along with needed food safety trainings, a web site now helps small food processors navigate the course of "recipe to reality," providing convenient information on licensing and product testing, sample process forms, and contact information for process approval: http://www.foodsafety.wisc.edu/ssp_acidified_canned_food.html

The audience includes colleagues, veterinarians and other professionals, individuals, families, 4-H and FFA youth, school-age children and preschoolers, fresh market vegetable and fruit growers and sellers, large and small food processors and entrepreneurs, crop, dairy and livestock producers, producer associations, dairy food processors and artisan cheesemakers, natural, organic and conventional meat processors, local and regional economic development initiatives, local and tribal governments, state and federal regulatory agencies, and others preserving food safely and keeping the food supply safe and wholesome. To help meet the growing need for food safety education, 100 trained Master Food Preserver

volunteers pledged to commit an average of 20 volunteer hours per year for 3 years - a total of 6,000 hours - in service to their communities as part of the Volunteer Master Food Preserver program.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	50%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	50%			
	Total	100%			

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

1. Situation and priorities

Progress has been made in reducing the incidence of key foodborne illnesses, with at least some of the decrease attributable to mandatory implementation of the Hazard Analysis and Critical Control Point (HACCP) in the nation's meat, poultry, and seafood processing establishments. However, pathogenic Escherichia coli associated with slaughter and processing remains a concern. Information is surfacing that Shiga toxin-producing E. coli (STEC) strains O26:[H11], O103:H2, O111:[H8] and O145:[H28], in addition to commonly recognized O157:H7, present a public health threat recognized by the U.S. Centers for Disease Control and Prevention. Intervention strategies to reduce shedding pathogens pre- and post-harvest are beneficial to improve food safety among meat producers.

Wisconsin has a strong and vibrant meat industry that is important for meeting consumer needs, ranking fourth in the country for fresh meat production, and second for the most processing plants: 145 federally inspected meat processing plants, about 300 state-inspected and another 60 with custom licenses, providing services only for specific clients. Food safety ranks as a top priority for all meat and poultry establishments, with productivity and profit often ranking lower. Without a clear understanding of pathogenic bacteria and a progressive approach to preventing bacterial presence or growth, meat processors may face a negative food safety situation such as a foodborne illness outbreak. Within a small margin of error, meat processors must thoroughly understand what pathogens must be controlled and how most effectively to control them. From small, family businesses to very large multi-plant facilities, all are tasked with the daily challenge of producing safe, high-quality nutritious foods.

Beef packing plants are required both to test carcasses randomly for violative drug residues as well as to test suspect carcasses identified by the USDA Food Safety Inspection Service (FSIS). Each carcass that tests positive is condemned and does not enter the food supply. When violators are detected they are reported to the U.S. Food and Drug Administration, who is required to investigate. Fines can be assessed

to the producer, and their names are posted on the public national FSIS web site. As a consequence of being found on the violator list, those producers face limited market access for their animals, and in some cases their milk as well. Even the seemingly low 1% rate of violations detected is unacceptable to many consumers.

Wisconsin also has a vibrant "buy local" economy and small food processors are benefiting from the economic momentum. In some cases, farmers wishing to add value to their crops are delving into the sale of canned pickles, salsas and other family-favorite products. As a group, canned foods such as pickles, salsas and tomato-based products are referred to as acidified foods. Processed incorrectly, acidified canned foods are potentially hazardous - they present the risk of botulism poisoning. As a result, the federal government requires processors of acidified canned foods to receive training before they are issued a processing license.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

The purpose of the integrated approach of state specialists and county-based educators is to educate Wisconsin consumers, agricultural producers, food processors and entrepreneurs and those who serve them throughout the food supply chain. Wisconsin Cooperative Extension plans collaboration among interdisciplinary campus and county faculty and staff, colleagues, partners and trained volunteers providing research-based training and support to improve the safety of the food supply by helping youth and adult agricultural producers, meat, dairy and acidified canned food processors and entrepreneurs adopt best practices and comply with government regulations.

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
2014	3.0	0.0	0.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2015	3.0	0.0	0.0	0.0
2016	3.0	0.0	0.0	0.0
2017	3.0	0.0	0.0	0.0
2018	3.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among interdisciplinary campus and county faculty and staff, colleagues, partners and trained volunteers providing research-based training and support to improve the safety of the food supply by helping youth and adult agricultural producers, meat, dairy and acidified canned food processors and entrepreneurs adopt best practices and comply with government regulations. Twenty county extension educators and state specialists are Beef Quality Assurance trainers, two Swine Team members are certified Transport Quality Assurance trainers and all four are Pork Quality Assurance Plus Advisors who also help train certified 4-H youth and volunteer leaders in Meat Animal Quality Assurance required for participation in county and state fair swine, beef and sheep projects and auctions.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (News media releases)
● Other 1 (Train-the-trainer and on-farm)	● Other 2 (Web-based training)
● Other 2 (state, regional and national con)	

3. Description of targeted audience

The audience includes colleagues, veterinarians and other professionals, individuals, families, 4-H and FFA youth, school-age children and preschoolers, fresh market vegetable and fruit growers and sellers, small food processors and entrepreneurs, crop, dairy and livestock producers, producer associations, dairy food processors and artisan cheesemakers, natural, organic and conventional meat processors, local and regional economic development initiatives, local and tribal governments, state and federal regulatory agencies, and others preserving food safely and keeping the food supply safe and wholesome. To help meet the growing need for food safety education, 100 trained Master Food Preserver volunteers pledged to commit an average of 20 volunteer hours per year for 3 years - a total of 6,000 hours - in service to their communities as part of the Volunteer Master Food Preserver program.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Improve the safety of the food supply.
2	Develop and implement behavioral interventions that improve consumer food safety practices.

Outcome # 1

1. Outcome Target

Improve the safety of the food supply.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 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 Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Develop and implement behavioral interventions that improve consumer food safety practices.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 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 Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

Description

Government regulations: The current situation requires educational efforts that focus on continued safety and adequacy of the food supply. As a critical infrastructure, the food and agriculture sector constitutes one-sixth of the U.S. gross domestic product (GDP) - more than a trillion dollars a year. A food and agriculture security event would have economic, social and psychological impacts. A mishandled emergency could undermine consumer confidence in the safety of the food supply. External political factors and animal diseases could threaten both the food supply and economic viability of animal agriculture industries. National efforts to monitor and detect potentially devastating diseases, identify and track potentially infected animals along marketing channels, and pinpoint the disease source and premises origin within a timeframe are of importance for all animal species. Premises and individual animal identification, combined with food quality and safety, become major programs of emphasis.

Wisconsin Cooperative Extension campus and county faculty and trained volunteer advisers address animal care and carcass quality issues through species-specific programs. Twenty county extension educators and state specialists are Beef Quality Assurance trainers. The Swine Team formed to help meet educational needs of the Wisconsin pork industry, providing quality assurance training programs for producers, transporters, youth and volunteer leaders. Two Swine Team members are certified Transport Quality Assurance trainers and all four are Pork Quality Assurance Plus Advisers who also help train certified 4-H youth and volunteer leaders in Meat Animal Quality Assurance required for participation in county and state fair swine, beef and sheep projects and auctions. Around 4,500 4-H youth are certified in Meat Animal Quality Assurance each year. Swine Team members also play an integral role in the Wisconsin Pork Expo, Badger Pork Day, Wisconsin Farm Technology Days, the Extension Educators Conference, and livestock activities at the Wisconsin State Fair. Educational partners include Cooperative Extension county colleagues statewide, UW-Madison Department of Animal Sciences, agricultural campuses at UW-Platteville and UW-River Falls, agricultural research stations, the Wisconsin Agro-Security Resource Network (WARN), Wisconsin Pork Association, Wisconsin Animal ID Consortium, and National Pork Board.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

The Wisconsin Cooperative Extension Evaluation Leadership Support Team is currently working with colleagues to develop an evaluation plan for extension Food Safety initiatives. The plan will be completed by September 1, 2013.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Childhood Obesity

2. Brief summary about Planned Program

Illnesses related to obesity and lack of exercise, such as diabetes, cancer and heart disease, are shortening lives and driving up health care costs. Diet-linked diseases account for an estimated $250 billion each year in increased medical costs and lost productivity, according to the Center for Nutrition Policy and Promotion Strategic Plan. Childhood obesity has become a common health problem, especially among low-income populations. In 2010, 29% of 2- to 3-year-old children in the Wisconsin Supplemental Nutrition Program for Women, Infants and Children (WIC) were overweight or obese. Studies show that more than half of obese children become overweight at or before age two. Mothers most often are the dominant influence on children's food consumption and dietary habits. Positive modeling is key to preventing childhood obesity as children's food preferences mirror those of their mothers. In children as young as 2 years old, food preferences were associated with those of their mothers. Effective research-based interventions that are practical to implement and sustain are needed to prevent obesity among preschoolers, helping parents and others help young children develop healthy behaviors.

For 2014, Wisconsin Cooperative Extension plans collaboration among Family Living Programs campus and county faculty and staff, colleagues and partners providing research-based education and assistance for preventing childhood obesity through developing and implementing behavioral interventions that improve nutrition and increase physical activity, as well as building capacity among colleagues and communities to address issues related to preventing childhood obesity. Education and assistance that help preschoolers develop healthy eating and physical activity behaviors will improve children's health and ability to learn, and reduce childhood obesity. Diverse participants will make informed, science-based decisions regarding nutrition, health and physical activity. These improvements will lead to decreased health care costs for families and the state BadgerCare program, and contribute to a productive workforce in the future.

Wisconsin Cooperative Extension nutrition education programs such as the Supplemental Nutrition Assistance Program (SNAP-Ed) provide keys to better health by showing people how to eat better and incorporate healthy activity into their lives. Extension educators reach diverse audiences through a variety of methods from home visits to classes and activities at community centers, festivals and fairs. The audience includes colleagues and other professionals, diverse children and youth, caregivers, parents and family members, local and tribal officials, public and private collaborating and community agencies, child care providers, teachers, school districts, administrators, tribal, state and federal agencies and others in a variety of educational settings to reach under-represented audiences including low-income Latino/a, African American, American Indian and Hmong parents, families and youth, translating and interpreting as needed.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	75%			
704	Nutrition and Hunger in the Population	10%			
724	Healthy Lifestyle	15%			
	Total	100%			

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

1. Situation and priorities

Illnesses related to obesity and lack of exercise, such as diabetes, cancer and heart disease, are shortening lives and driving up health care costs. Diet-linked diseases account for an estimated $250 billion each year in increased medical costs and lost productivity, according to the Center for Nutrition Policy and Promotion Strategic Plan. As documented in the national objectives of Healthy People 2010, improving the U.S. diet and boosting physical activity could reduce cardiovascular disease, diabetes and cancer. The importance of education to improve nutrition and physical activity behaviors is further documented by reports from the Centers for Disease Control and Prevention that state: "Poor diet and physical inactivity are associated with 300,000 deaths each year, second only to tobacco use."

Results of the Healthy Eating Index indicate that 76% of children ages 2 to 5 have poor diets that can put them at risk of obesity (USDA, DHHS). Childhood obesity has become a common health problem, especially among low-income populations. In 2010, 29% of 2- to 3-year-old children in the Wisconsin Supplemental Nutrition Program for Women, Infants and Children (WIC) were overweight or obese. Studies show that more than half of obese children become overweight at or before age two. Mothers most often are the dominant influence on children's food consumption and dietary habits. Positive modeling is key to preventing childhood obesity as children's food preferences mirror those of their mothers. In children as young as 2 years old, food preferences were associated with those of their mothers.

Effective research-based interventions that are practical to implement and sustain are needed to prevent obesity among preschoolers, helping parents and others help young children develop healthy behaviors. The White House Task Force on Childhood Obesity Report to the President, Solving the Problem of Childhood Obesity within a Generation, presents an action plan for the prevention of childhood obesity: (1) empower parents and caregivers; (2) provide healthy food in schools; (3) improve access to healthy, affordable foods; and (4) increase physical activity. The goal of the action plan, developed by an interagency task force, is to reduce childhood obesity to a rate of just 5% by 2030: http://www.letsmove.gov/tfco_fullreport_may2010.pdf

2. Scope of the Program

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

- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

Wisconsin Cooperative Extension plans collaboration among Family Living Programs campus and county faculty and staff, colleagues and partners providing research-based education and assistance for preventing childhood obesity through developing and implementing behavioral interventions that improve nutrition and increase physical activity, as well as building capacity among colleagues and communities to address issues related to preventing childhood obesity. Education and assistance that help preschoolers develop healthy eating and physical activity behaviors will improve children's health and ability to learn, and reduce childhood obesity. Diverse participants will make informed, science-based decisions regarding nutrition, health and physical activity. These improvements will lead to decreased health care costs for families and the state BadgerCare program, and contribute to a productive workforce in the future.

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
2014	2.0	0.0	0.0	0.0
2015	2.0	0.0	0.0	0.0
2016	2.0	0.0	0.0	0.0
2017	2.0	0.0	0.0	0.0
2018	2.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among Family Living Programs campus and county faculty and staff, colleagues and partners providing research-based education and assistance for preventing childhood obesity through developing and implementing behavioral interventions that improve nutrition and increase physical activity, as well as building capacity among colleagues and communities to address issues related to preventing childhood obesity. Education and assistance that help preschoolers develop healthy eating and physical activity behaviors will improve children's health and

ability to learn, and reduce childhood obesity. Diverse participants will make informed, science-based decisions regarding nutrition, health and physical activity. These improvements will lead to decreased health care costs for families and the state BadgerCare program, and contribute to a productive workforce in the future.

A unique 7-state project is investigating rural communities' abilities to provide environments that sustain healthy eating and promote physical activity among 4-year-old low-income children. Multi-disciplinary university scientists, researchers and extension specialists are developing community readiness, needs assessment and online distance learning tools to document best practices for extension staff working to prevent childhood obesity. Through a competitive proposal process, Crawford and Iron counties were chosen as project sites based on their commitment and established community partnerships for preventing childhood obesity.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Other 1 (Train-the-trainer) ● Other 2 (Group facilitation, peer network)	● Public Service Announcement ● Newsletters ● Web sites other than eXtension ● Other 1 (News media releases) ● Other 2 (Web-based training)

3. Description of targeted audience

Wisconsin Cooperative Extension nutrition education programs such as the Supplemental Nutrition Assistance Program (SNAP-Ed) provide keys to better health by showing people how to eat better and incorporate healthy activity into their lives. Extension educators reach diverse audiences through a variety of methods from home visits to classes and activities at community centers, festivals and fairs. The audience includes colleagues and other professionals, diverse children and youth, caregivers, parents and family members, local and tribal officials, public and private collaborating and community agencies, child care providers, teachers, school districts, administrators, tribal, state and federal agencies and others in a variety of educational settings to reach under-represented audiences including low-income Latino/a, African American, American Indian and Hmong parents, families and youth, translating and interpreting as needed.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Develop and implement behavioral interventions that improve nutrition and increase physical activity.
2	Build capacity among community partners to address issues related to nutrition and childhood obesity.

Outcome # 1

1. Outcome Target

Develop and implement behavioral interventions that improve nutrition and increase physical activity.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Build capacity among community partners to address issues related to nutrition and childhood obesity.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Public policy: Nearly $150 billion per year is now being spent to treat obesity-related medical conditions. The White House Task Force on Childhood Obesity Report to the President, Solving the Problem of Childhood Obesity within a Generation, presents an action plan for the prevention of childhood obesity: (1) empower parents and caregivers; (2) provide healthy food in schools; (3) improve access to healthy, affordable foods; and (4) increase physical activity. The goal of the action plan, developed by an interagency task force, is to reduce childhood obesity to a rate of just 5% by 2030: http://www.letsmove.gov/tfco_fullreport_may2010.pdf

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation purpose:

The purpose of the evaluation is to test the notion that childhood obesity can be prevented through collective action at multiple ecological levels in small communities. The 5-year multi-state Communities Preventing Childhood Obesity project focuses on 4-year-old low-income rural children because multiple parties provide food and activity for these children, not just parents. Head Start, Food SHARE, WIC, child care, family and friends all play a role. Results will be used by Cooperative Extension colleagues and community partners in 7 collaborating states and nationwide to improve the environment for preventing childhood obesity, and by extension professionals in determining how to be effective coalition leaders and members.

Evaluation questions:

Can childhood obesity be prevented through collective action at multiple ecological levels?
Do evidence-based programs result in improved community outcomes?
Does environmental scanning lead to effective action?
Do the skill of a trained community coach result in better coalition outcomes?
What skills are needed by extension educators and coalition leaders to plan effective sustainable programs?

Methods:

The evaluation will use multiple methods with multiple data collection points. The seven states have agreed to identified measures and high quality tools that will be administered under the same protocols to allow for pooling data. In the first year, counties will conduct an environmental scan including relevant demographics on health, healthy eating and physical activity of children. They will conduct a standardized community assessment that identifies both assets and barriers to healthy eating and activity looking at child care centers, child food programs, recreation options and healthy food availability. They will use a standardized parent survey with 30 low-income parents that will bring the voice of young families into the planning process as they report on foods available at home, monitoring of screen time, and barriers to healthy eating and activity. These data will serve as the foundation for creating action plans.

County extension educators will complete a coalition leadership self-assessment, and coalition members will complete a coalition functioning self-assessment. These evaluation tools will increase understanding of roles, skills, meeting effectiveness, conflict management and other coalition functions that may affect outcomes. These tools will be administered annually to note growth. Each county's work will be described in a case study of the interplay of individual and coalition skills, practices, and challenges. The community coach will keep detailed notes on her roles, tasks and inputs into the work of the coalition. The coach's intervention will be described and compared to the results found in the non-coached community.

Final analysis will revisit the original environmental scan process to determine if the environment for

rural low-income children has improved in ways that decrease their risk for obesity. The final multi-state evaluation will pool data, include case studies and share lessons learned and best practices with colleagues and partners nationwide.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Climate Change

2. Brief summary about Planned Program

Climate change has a variety of impacts on communities, agriculture, natural resources, local economies and human health. Despite the complexity and associated challenges, communities and agencies find themselves having to adapt to immediate climate impacts and needing to plan for future climate scenarios. As these planning processes move forward, it is important to provide professionals and community leaders with locally relevant, science-based climate information. Information and guidance are also needed for choosing among methods for incorporating new climate information into economic development and resource management planning processes.

For 2014, Wisconsin Cooperative Extension plans collaboration among campus and county faculty and staff, tribal, regional and national colleagues, partners and trained volunteers providing timely research-based education and assistance to adapt to and mitigate climate change impacts through developing, implementing and evaluating outreach programs to reduce carbon, nitrogen, energy and water footprints and identify climate vulnerabilities in their communities. Supporting this work is the Wisconsin Initiative on Climate Change Impacts. Regional Climate Impacts Workshops provide the latest climate science, examples of Great Lakes community vulnerabilities, climate planning processes and strategies, planning tools and resources for planners and other professionals working on land use, public health, stormwater, emergency preparedness, utilities, and natural resource management. This curriculum is also presented at workshops reaching Wisconsin professionals and community leaders with specific climate information tailored to their disciplines and communities.

Improving nutrient management practices improves farm profitability and reduces harmful effects of nitrogen and phosphorus on water quality. This can likewise reduce a harmful byproduct of climate mediated excess soil moisture -- emissions of the greenhouse gas nitrous oxide into the atmosphere. As a result of extension Nutrient Management Farmer Education, by 2012 at least 1,033,000 acres of cropland and grazing land farmed in 53 counties by the 4,156 producers were covered under a nutrient management plan that meets all local, state and federal regulations. The farmer benefit value was at least $7.2 million for these plans, which also qualified farmers for another $2.6 million in tax credits.

Wisconsin Cooperative Extension campus specialists collaborate with county extension faculty and staff, state urban and regional planning, tribal, national and international colleagues to research and align best practices and stakeholder involvement in making informed decisions to meet local needs. The audience includes colleagues and other professionals, growers and grower associations, Certified Crop Advisors, custom manure applicators and other agricultural service providers, coalitions and cooperatives, community leaders, business owners, local elected officials, town, city, county and tribal governments, state and federal agencies, local planning departments and regional planning commissions, utilities, school districts, economic development practitioners, the news media, and diverse individuals, youth and families.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%			
133	Pollution Prevention and Mitigation	20%			
205	Plant Management Systems	10%			
601	Economics of Agricultural Production and Farm Management	10%			
605	Natural Resource and Environmental Economics	20%			
608	Community Resource Planning and Development	30%			
	Total	100%			

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

1. Situation and priorities

Throughout the Great Lakes Region, resource managers and local elected officials struggle to integrate science-based information on environmental and economic issues into comprehensive planning efforts and day-to-day policy decisions. The Land Grant institutions have many programs and tools to help collaboratives and public officials address these needs, but these programs and tools are only beginning to be used to address climate change impacts. Efforts to coordinate their development and delivery could increase awareness and access, as well as facilitate multi-state and multi-institutional collaboration. Such collaboration across regional states can help university extension educators and the communities they serve solve common problems such as preventing excess nutrients on cropland, maintaining sufficient drinking water quality and quantity, conserving flagship water resources like the Great Lakes and Upper Mississippi River, and developing more effective ways of measuring the impacts of resource management programs.

Wisconsin farmers face increasing regulatory pressures due to excess agricultural nutrient contributions to lakes, streams and the atmosphere. Government agricultural programs, zoning, large farm licenses, state animal feeding operation permits and new farmland preservation tax credits all require farms to have nutrient management plans. Regulations aside, improving nutrient management practices to include mitigation of climate change impacts can also address greenhouse gas mitigation, improve farm profitability and water quality.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

Wisconsin Cooperative Extension campus and county faculty and staff, tribal, regional and national colleagues, partners and trained volunteers will provide timely science-based education and assistance for climate change adaptation and mitigation through developing, implementing and evaluating outreach programs to reduce carbon, nitrogen, energy and water footprints and identify climate vulnerabilities in their communities. Communities of interest and place will develop and use strategies that address emerging and economic vitality issues, that build the organizational and leadership capacity of local governments, community based organizations, and businesses, and that engage people, businesses, and communities in the process of protecting and enhancing the resource base that underlies the vitality of Wisconsin communities and agriculture.

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
2014	15.0	0.0	0.0	0.0
2015	15.0	0.0	0.0	0.0
2016	15.0	0.0	0.0	0.0
2017	15.0	0.0	0.0	0.0
2018	15.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among campus, county faculty and staff, tribal, regional and national colleagues, partners and trained volunteers providing timely science-based education and assistance for climate change adaptation and mitigation through developing, implementing and evaluating outreach programs to reduce carbon, nitrogen, energy and water footprints in their communities. Supporting this work is the interagency Wisconsin Initiative on Climate Change Impacts: http://www.wicci.wisc.edu

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (New media releases)
● Other 1 (Train-the-trainer)	● Other 2 (Web-based training)
● Other 2 (Group facilitation, peer network)	

3. Description of targeted audience

Wisconsin Cooperative Extension campus specialists collaborate with county extension faculty and staff, state urban and regional planning, tribal, national and international colleagues to research and align best practices and stakeholder involvement in making informed decisions to meet local needs. The audience includes colleagues and other professionals, growers and grower associations, Certified Crop Advisors, custom manure applicators and other agricultural service providers, coalitions and cooperatives, community leaders, business owners, local elected officials, town, city, county and tribal governments, state and federal agencies, local planning departments and regional planning commissions, utilities, school districts, economic development practitioners, the news media, and diverse individuals, youth and families.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Develop, implement and evaluate outreach programs that reduce carbon, nitrogen, energy and water footprints in their communities.
2	Reduce atmospheric greenhouse gas emissions.

Outcome # 1

1. Outcome Target

Develop, implement and evaluate outreach programs that reduce carbon, nitrogen, energy and water footprints in their communities.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Reduce atmospheric greenhouse gas emissions.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation
- 601 - Economics of Agricultural Production and Farm Management
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Appropriations changes: The National Estuarine Research Reserve (NERR) System is a nationwide network of protected coastal estuaries designated and supported through the National Oceanic and Atmospheric Administration. The NERR program integrates research, outreach, and stewardship activities. Wisconsin Cooperative Extension successfully facilitated the nomination of the St. Louis River freshwater estuary along the border between Wisconsin and Minnesota at the headwaters of the Great Lakes. With its designation in October 2010, the 16,697-acre Lake Superior National Estuarine Research Reserve joined Old Woman Creek (Ohio) as the second Great Lakes freshwater estuary in the NERR System. The Lake Superior NERR, which has partners in Wisconsin, Minnesota and tribal governments, partners with the Ohio NERR on Great Lakes Climate Impacts Workshops for community leaders, planners and other professionals, supported by the interagency Wisconsin Initiative on Climate Change Impacts.

Public policy changes: The Wisconsin Initiative on Climate Change Impacts (WICCI) is a statewide collaboration bringing scientists and stakeholders together to find adaptation strategies to reduce potential negative impacts of climate change in Wisconsin. WICCI issued its first comprehensive report in February 2011, Wisconsin's Changing Climate: Impacts and Adaptation. Wisconsin Cooperative Extension statewide climate specialist David S. Liebl leads the WICCI outreach effort, chairing the WICCI Outreach Roundtable and sitting on the WICCI Science Council. WICCI's outreach program focuses on building capacity among Wisconsin decision makers to integrate climate projections into resource management decisions: http://www.wicci.wisc.edu

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Purpose of the evaluation: Wisconsin Cooperative Extension can help communities understand and use information about climate change. To do so, extension educators must understand:

- The science of climate change, adaptation and mitigation strategies;
- Needs of diverse stakeholders; and
- How to develop effective educational programs.

Educators must also overcome challenges such as public uncertainty and skepticism about:

- Climate science methods and conclusions;
- The human role in climate change; and
- Human ability to mitigate negative climate changes.

All extension faculty will need professional development for climate literacy to address these challenges with diverse stakeholders to support building capacity for integrating climate into effective educational programming. The Evaluation Leadership Support Team and Climate Change Work Group are evaluating pilot climate change professional development during 2012, and will build further

evaluation plans on this base.

Questions to be addressed: Expected outcomes and indicators

Short term

1. The Climate Change Work Group will identify extension capacity building resources applicable to climate change outreach education for identified audiences.

Extension educators will demonstrate knowledge of:

1.1Climate science concepts

1.2The role of science in society and climate policy

1.3Public controversies about climate change

1.4 Extension climate science core competencies

2. The Climate Change Work Group will understand the range of educational programs where climate resources and expertise are needed.

Extension educators will demonstrate the ability to:

2.1Recognize their own biases and beliefs about science and climate change

2.2 Assess the quality of diverse climate information sources

2.3 Integrate climate concepts into local and statewide programs

Medium term

3. The Climate Change Work Group will measure effectiveness of professional development. Specifically, can extension educators demonstrate an ability to:

3.1 Confidently apply extension climate science core competencies to outreach program development

3.2 Effectively integrate climate change considerations into extension outreach programs by:

a. Making use of appropriate climate resource materials

b. Selecting or adapting program content to specific audiences

c. Responding effectively to ethical and political debate around climate

3.3 Evaluate and report outcomes from delivering climate outreach and education

Long term

4. Extension will have a consistent message about climate change.

5. Extension educators incorporate current Wisconsin and regional data and projections about climate and climate change impacts and implement climate change education as appropriate to their stakeholders.

6. Wisconsin interest groups and communities make use of extension resources and teaching when considering changes based on climate science.

7. Wisconsin Cooperative Extension is recognized by counties and other stakeholders as a credible source on information related to climate change.

Methods: Evaluation methods to be used are preliminary. The Evaluation Leadership Support Team will work with the Climate Change Work Group to determine appropriate methodologies.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

Wisconsin Cooperative Extension campus and county faculty and staff are conducting integrated research and extension programs, building capacity for scalable, sustainable energy among extension colleagues and communities. Cooperative Extension educators in both agriculture and community development program areas are being called on to respond to questions about bioenergy and sustainable renewable energy. Farmers and foresters are interested in supplying feedstocks to the bioenergy industry as a potential alternative market and source of revenue. Communities are interested in developing renewable energy industries for energy independence, job creation, and economic development. Northern Wisconsin's forests and farmlands offer a rich supply of herbaceous and woody biomass. Recognizing the feedstock availability, a number of companies have announced plans to establish or expand their use of woody biomass for energy production. As another region rich in renewable resources, rural Southwest Wisconsin also has an opportunity to create new jobs and develop renewable energy both for use within the 9-county region as well as to supply nearby urban areas.

The audience includes regional and national colleagues, municipalities, regional planning commissions, regulated and unregulated utilities, liquid biofuels, anaerobic digester and biomass conversion technology firms, biomass producers and aggregators, food processors, food services, school districts, loggers, procurement foresters, wood products professionals, haulers, farmers, business owners, woodland owners, recycling volunteers, local and regional economic development initiatives, public and private agencies, government and tribal officials.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%			
133	Pollution Prevention and Mitigation	10%			
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%			
403	Waste Disposal, Recycling, and Reuse	10%			
601	Economics of Agricultural Production and Farm Management	10%			
602	Business Management, Finance, and Taxation	10%			
605	Natural Resource and Environmental Economics	20%			
608	Community Resource Planning and Development	20%			
	Total	100%			

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

1. Situation and priorities

Anaerobic digestion is a proven waste-to-energy technology. Wisconsin is the leading state for on-farm anaerobic digestion with more than 35 operational systems. The last decade created demand for knowledge of system components, processes and mechanisms, and operation skills. Since large-scale implementation is relatively recent, training is needed for safe production and use of biogas. While these multi-million dollar systems only run economically on the waste from 500 or more cows, hundreds of thousands of very small farms worldwide use small-scale biodigesters costing only a few hundred dollars in climates as harsh as Wisconsin's. The bulk of Wisconsin dairy farms with fewer than 200 cows lack information on small-scale biodigesters.

As demand for new sources of energy increases, extension educators in both agriculture and community development program areas are being called on to respond to questions about bioenergy and sustainable renewable energy. Farmers and foresters are interested in supplying feedstocks to the bioenergy industry as a potential alternative market and source of revenue. Communities are interested in developing renewable energy industries for energy independence, job creation, and economic development.

2. Scope of the Program

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

- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

Resources are/will be available in a timely manner. Education can/will lead to the desired expected change. The research base is accurate and relevant. Participants attend/engage. Motivation exists/can be generated. Projected timeline for program implementation is realistic. Interest/mandates remain consistent/stable.

2. Ultimate goal(s) of this Program

Wisconsin Cooperative Extension plans collaboration among the cross-program area BioEnergy and the BioEconomy Team. Campus and county faculty and staff are conducting integrated research and extension programs, building capacity for scalable, sustainable energy among extension colleagues and communities. Communities of interest and place will develop and use strategies that address emerging and economic vitality issues, that build the organizational and leadership capacity of local governments, community based organizations, and businesses, and that engage people, businesses, and communities in the process of protecting and enhancing the resource base that underlies the vitality of Wisconsin communities and agriculture.

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
2014	3.0	0.0	0.0	0.0
2015	3.0	0.0	0.0	0.0
2016	3.0	0.0	0.0	0.0
2017	3.0	0.0	0.0	0.0
2018	3.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For 2014, Wisconsin Cooperative Extension plans collaboration among the cross-program area BioEnergy and the BioEconomy Team. Campus and county faculty and staff are conducting integrated research and extension programs, building capacity for scalable, sustainable energy among extension colleagues and communities. UW-Madison Environmental Resources Center sustainability studies scientist Sharon Lezberg worked with 50 North Central Region colleagues to develop the BioEnergy and Renewable Energy Community Assessment Toolkit and Energy Independence, BioEnergy Generation and Environmental Sustainability curricula disseminated via the Wisconsin Bioenergy Training Center web site: http://fyi.uwex.edu/biotrainingcenter

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● Web sites other than eXtension
● One-on-One Intervention	● Other 1 (News media releases)
● Other 1 (Train-the-trainer and on-farm)	● Other 2 (Web-based training)
● Other 2 (State, regional, & National Conf)	

3. Description of targeted audience

The interdisciplinary BioEnergy and the BioEconomy Team is addressing statewide emerging bioenergy education needs. Farmers and foresters are interested in supplying feedstocks to the bioenergy industry as a potential alternative market and source of revenue. Communities are interested in developing renewable energy industries for energy independence, job creation, and economic development. At the onset of the bioenergy industry, policy makers, as well as entrepreneurial businesses, encouraged the rapid development of new energy sources using biomass as a renewable feedstock.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

☐ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Develop biomass use for biofuels.
2	Build capacity to create, refine and implement scalable conversion technologies.

Outcome # 1

1. Outcome Target

Develop biomass use for biofuels.

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 133 - Pollution Prevention and Mitigation
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 403 - Waste Disposal, Recycling, and Reuse
- 601 - Economics of Agricultural Production and Farm Management
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Build capacity to create, refine and implement scalable conversion technologies.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 403 - Waste Disposal, Recycling, and Reuse
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Economy: While still a small part of the agricultural, forestry and industrial sectors, bioenergy production and new bioenergy facilities continue to be explored. As volatile energy costs continue, the Wisconsin Cooperative Extension Bioenergy and the Bioeconomy Team will play a key role in helping new bioenergy projects - from ultra-small to large - create new jobs for new industries. These uncertain times require careful analysis by informed developers, municipalities and other decision makers to ensure the best chance for a proposed project's success. While some larger-scale projects have been put on hold, extension business education and assistance will continue to bring research and innovation to an emerging bioeconomy.

Public policy changes: State and federal policies are driving research and development of the bioeconomy, and projects that can generate energy from bio-based residuals and specialty crops are being widely investigated. However, the changing political and economic landscapes in energy and environment have complicated bioeconomic development decision-making. Recent renewable energy stagnation, incentive and policy uncertainty in biomass-based energy have slowed numerous stake-holders' interest and participation in bioenergy development. Even so, investments in bio-based chemicals and manufacturing precursors have been increasing. Both larger and smaller municipalities have reached the conclusion that locally-sponsored bio-energy (power and thermal) may provide their community with a number of benefits.

Competing public priorities: Given Wisconsin's wealth of resources in forests and agricultural production, there is great interest among state businesses and communities in producing alternative fuels and feedstocks from biomass. Outreach and extension collaborations needed further development. Professional training and cross-discipline sharing of research and information needed additional collaboration to effectively and efficiently bring new technology to application. A new collaboration was formed among Wisconsin Cooperative Extension, the University of Wisconsin-Madison College of Agricultural and Life Sciences and Wisconsin Bioenergy Initiative to develop the curriculum for USDA Farm Service Agency Biomass Crop Assistance Program education. Acres of farmland being used for biomass/fuel are not available for food production - commodities or locally produced foods that support communities.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

The Wisconsin Cooperative Extension Evaluation Leadership Support Team is currently working with colleagues to develop an evaluation plan for extension Sustainable Energy initiatives. The plan will be completed by September 1, 2013.