

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Global Food Security, Food Availability: Dairy and Livestock

Reporting on this Program

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	20%			
308	Improved Animal Products (Before Harvest)	5%			
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 (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	36.0	0.0	0.0	0.0
Actual Paid Professional	35.4	0.0	0.0	0.0
Actual Volunteer	4002.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1813290	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1813290	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

University of Wisconsin-Extension Cooperative Extension statewide interdisciplinary teams provide research-based education and assistance to sustain and grow the state's vital agricultural economy and the \$26.5 billion dairy industry supporting more than 146,000 jobs at its heart. To increase profitability, productivity and quality of life among farmers and rural communities, the Dairy Team, Livestock Team, Farm and Risk Management Team and Team Forage, colleagues and partners provide timely education and technical assistance for minimizing losses due to animal diseases and enhancing the economic and environmental sustainability of agribusinesses through on-farm management teams, making OSHA rules meaningful and practical for dairy farms, Spanish-speaking workers and youth by building the capacity of the agriculture service and support industry, and training the next generation.

On-farm management teams improve viability: The average dairy cow generates more than \$20,000 a year in economic activity, which circulates throughout local communities (Deller and Williams, 2011). More than 11,600 dairy farms maintain 1.27 million milk cows, producing 26.1 billion pounds of milk in 2011 (DATCP, 2012). Volatile milk prices and record high feed costs have forced dairy farmers to scrutinize their input costs, along with other production practices that reduce costs, improve labor efficiency, increase production and profitability. Statewide in 2012, 20 county extension agriculture agents facilitated 98 on-farm management teams impacting 9,024 cows, and 8 facilitated Grow Wisconsin Dairy Farm Management Teams on 17 farms with 2,833 cows. Team suggestions led to changes such as increased milk production, decreased somatic cell count (SCC) and higher premiums, decreased feed and labor costs, barn renovation, and 3 successful farm transfers that kept 375 cows on Manitowoc County farms (\$20,000 each) keeping \$7.5 million per year flowing into the local economy.

Making OSHA rules meaningful and practical for dairy farms, Spanish-speaking workers and youth: Agriculture is the most hazardous industry, especially for inexperienced youth and Hispanic workers. After investigating the death of a Hispanic worker, the Occupational Safety and Health Administration (OSHA) issued a statewide local emphasis program (LEP) that dairy farm compliance inspections would start in 2012, focusing on ensuring the safety of Spanish-speaking and youth workers. Every dollar spent on safety nets \$3 to \$6 in savings. Working with many extension colleagues, agricultural safety and health specialist Cheryl Skjolaas trained educational partners including OSHA inspectors who had never been on a dairy farm, conducted dairy farm safety reviews, built on existing youth and bilingual Dairy Worker Trainings on animal handling and skid steer safety, pilot tested a comprehensive Dairy Farm Safety Short Course in English and Spanish with UW-River Falls, and developed educational programs and resources to help producers and industry representatives learn about OSHA compliance and on-farm safety: <http://fyi.uwex.edu/agsafety>

2. Brief description of the target audience

Cooperative Extension reached an estimated 163,887 adults and 24,240 youth through direct teaching methods. The audience includes extension colleagues, veterinarians, agricultural professionals and other educational partners, youth and adult dairy and livestock producers and workers, 4-H youth and trained volunteer leaders, forage growers and grazing networks, producer associations, cheesemakers, meat and dairy food processors and entrepreneurs, cooperatives, agricultural service providers and industry field representatives, insurance agents, farm safety and health professionals, farm safety and design consultants, farm lenders, local and tribal officials, and state and federal regulatory agencies. Integrated faculty and county extension agents are engaged in international and multi-state collaborations to increase sustainability of the food supply by developing new and updated research-based recommendations for farm owners and managers nationwide.

Reaching under-served audiences: Bilingual Dairy Worker Trainings are developed in English and Spanish with the UW-Madison Babcock Institute for International Dairy Research and Development, so more dairy workers are learning calf care, reproductive care, milking, feeding and herdsmanship skills, standard best management and disease-prevention practices, animal handling and farm safety. The Dairy Partner/El Compañero newsletter reinforces trainings including OSHA safety rules at their 5th Grade reading level for more than 2,500 Spanish-speaking dairy workers on 1,200 Wisconsin farms and online: <http://fyi.uwex.edu/dairypartnerelcompanero>

3. How was eXtension used?

Wisconsin Cooperative Extension campus and county faculty and staff participate in various communities of practice, engaging with colleagues around the country to improve the educational content of research-based programs and assistance delivered to residents across the state and region. Extension colleagues are connected by email ListServ, blogs and online newsletters, and shared resources such as teleconferences and webinars, eXtension Communities of Practice, and the national Extension Disaster Education Network (EDEN) to quickly address critical and emerging issues such as responding to extreme weather during 2012. In 2012, extension farm safety and health specialist Cheryl Skjolaas contributed to the eXtension FRESH Community of Practice (COP). Interdisciplinary colleagues and other professionals in this network include University of Wisconsin researchers on the Madison, Platteville, River Falls and Stevens Point campuses, at 11 agricultural research stations and the USDA Dairy Forage Research Center.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	163887	0	24240	0

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

Patent Applications Submitted

Year: 2012
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	25	23	48

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 Measures

Manage and minimize the loss due to animal disease.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Enhance the economic and environmental sustainability of agribusinesses.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	7500000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The dairy industry is critically important to the state economy, accounting for \$26.5 billion of Wisconsin's industrial output and more than 146,000 jobs. The average dairy cow generates more than \$20,000 a year in economic activity, which circulates throughout local communities (Deller and Williams, 2011). More than 11,600 dairy farms maintain 1.27 million milk cows, producing 26.1 billion pounds of milk in 2011 (DATCP, 2012). Volatile milk prices and record high feed costs have forced dairy farmers to scrutinize their input costs, along with other production practices that reduce costs, improve labor efficiency, increase production and profitability.

What has been done

University of Wisconsin-Extension Cooperative Extension county agriculture agents have facilitated on-farm management teams for decades. These include Milk Money, Repro Money, dairy modernization, herd health, business and succession planning. Most recent are the Grow Wisconsin Dairy Farm Management Team and Dairy 30x20 programs partnership among the Cooperative Extension Center for Dairy Profitability and county offices, the Wisconsin Department of Agriculture, Trade and Consumer Protection, Wisconsin Technical Colleges and others. Management teams include farm owners and managers, veterinarians, nutrition and crop consultants, milking equipment and dairy plant field representatives, farm lenders, accountants,

technical college instructors, and a county extension agent as team facilitator. Together, they assess and address needs such as expansion, new or appropriate technology, financial success, long-term sustainability, and production-enhancing measures focusing on herd health, nutrition, milk production, resources for operational efficiencies and training, managed grazing, transition to organic production and other goals they identify.

Results

On-farm management teams improve viability: Statewide in 2012, 20 county agriculture agents reported facilitating 98 on-farm management teams impacting 9,024 cows, and 8 facilitated Grow Wisconsin Dairy Farm Management Teams on 17 farms with 2,833 cows. Team suggestions led to changes such as increased milk production, decreased somatic cell count (SCC) and higher premiums, decreased feed and labor costs, barn renovation, and successful transfer to the next generation. For example:

In Manitowoc County: Scott Gunderson facilitates 135 members of management teams on 19 farms. Of farms with dairy management teams: All 9 farmers with milk quality teams met their goals, reducing SCC around 120,000 resulting in higher milk quality premiums, improved milk production, fewer veterinary costs, and less antibiotic use.

74% increased milk production per cow by an average 2.5 pounds per day, or 450 pounds per day based on an average dairy farm with 180 cows. This increased milk production added an extra \$2,400 of gross income per month per farm (2.5 pounds per day times 30 days per month times 180 cows per farm times \$18 per hundredweight of milk equals \$2,400 per month).

Three farm succession transfers that kept 375 cows on Manitowoc County farms (each \$20,000) keep \$7.5 million per year flowing into the local economy.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #3

1. Outcome Measures

Build the capacity of the agriculture service and support industry.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agriculture is the most hazardous industry, especially for inexperienced youth and Hispanic workers (NSC, 2009). In 2009, a Hispanic dairy worker drowned while operating a skid steer to push manure into a manure storage lagoon, prompting inspection by the Occupational Safety and Health Administration (OSHA). OSHA then issued a statewide local emphasis program (LEP) that Wisconsin dairy farm compliance inspections would start in 2012, focusing on ensuring the safety of Spanish-speaking and youth workers. This resulted in urgent need for resources and training to help dairy producers identify safety risks and develop an on-farm OSHA-compliant safety and health program.

What has been done

The OSHA Dairy Farm LEP applies to around 13,000 dairy cow and dairy goat milk producers licensed by the Department of Agriculture, Trade and Consumer Protection, and 150 Concentrated Animal Feeding Operations (CAFO) under Department of Natural Resources water protection permits. Of 12,551 immigrant dairy workers - 40% of the workforce - 89% are from Mexico. Working with many extension colleagues, agricultural safety and health specialist Cheryl Skjolaas trained educational and agency partners, conducted dairy farm safety reviews, built on existing youth and bilingual Dairy Worker Trainings on animal handling and skid steer safety, pilot tested a comprehensive Dairy Farm Safety Short Course in English and Spanish with UW-River Falls, and developed educational programs and resources to help producers and industry representatives learn about OSHA compliance and on-farm safety:
<http://fyi.uwex.edu/agsafety>

Results

Building capacity to make OSHA rules meaningful and practical for dairy farms, Spanish-speaking workers and youth: Two OSHA area directors, 4 compliance safety officers and 8 compliance inspectors found their on-farm training valuable as they better understand modern dairy facilities, operations, work tasks, safe handling of dairy cattle and what to consider a safe versus hazardous work situation. Most had never been on or had limited exposure to dairy farms. The Dairy Worker Roundtable III informed educational partners, insurance industry and government agency staff, safety and design consultants, dairy producers and professionals. Safety reviews on 36 dairy farms covered around 400 workers handling 40,000 cows. CAFO Update meetings reached 350 producers and industry representatives.

Through the pilot bilingual Dairy Farm Safety Short Course, 9 producers with 75 workers learned how to create a safe workplace, properly train workers and meet OSHA requirements. Ten counties held safety programs training more than 280 dairy workers. Spanish-speaking workers learned proper cattle handling and skid steer safety. Proper cattle handling decreases injury to both cattle and dairy workers, decreases dairy cow stress and increases milk production. In 2012,

70 high school agricultural education and technical college instructors learned OSHA rules for training youth. Safe Operation of Tractor and Machinery training certified 421 youth working on their family farm or dairy farms. The Liberty Mutual Research Institute for Safety estimates that \$3 to \$6 are saved for each dollar invested in safety.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #4

1. Outcome Measures

Innovations and increased efficiencies in production.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Government regulations and population changes: Agriculture is the most hazardous industry, especially for inexperienced youth and Hispanic workers (NSC, 2009). While family members are exempt from OSHA rules, expanding dairy farms hiring more Hispanic workers enabled the Occupational Safety and Health Administration (OSHA) to spend funds for compliance inspections in Wisconsin. In 2009, a Hispanic dairy worker drowned while operating a skid steer to push manure into a manure storage lagoon, prompting OSHA inspection. OSHA then issued a statewide local emphasis program (LEP) that dairy farm compliance inspections would start in 2012, focusing on ensuring the safety of Spanish-speaking and youth workers. This resulted in urgent need for resources and training to help dairy producers identify safety risks and develop an on-farm OSHA-compliant safety and health program. The OSHA Dairy Farm LEP applies to around 13,000 milk producers licensed by the Department of Agriculture, Trade and Consumer Protection, and 150 Concentrated Animal Feeding Operations (CAFO) under Department of Natural Resources water protection permits. Of 12,551 immigrant workers on Wisconsin dairy

farms - 40% of the workforce - 89% are from Mexico.

Natural disasters: Intense heat and severe drought rivaling that of 1988 lingered through most of Wisconsin and the Midwest through 2012, compounded by widespread late frost and even some flooding. University of Wisconsin-Extension Cooperative Extension campus and county faculty and staff responded quickly to immediate issues of the drought such as dealing with heat stress to maintain dairy cow productivity and health, securing hay and other feed from alternative sources, easing family financial stress and more. Planning for, coordinating and leading a longer-term response effort that focuses on the human/family, production and financial aspects of this challenge is one of Cooperative Extension's primary purposes - to respond proactively now so that as drought impacts unfold, programs and resources are in place to continue responding appropriately.

UW-Extension Cooperative Extension has devoted resources to work collaboratively with partner agencies to address challenges involving production, financial, and humans responding to stressful situations. An extension point person has been designated to work with state specialists, county agriculture and family living educators and partners to coordinate the longer-term response needed. See the report added for 2012 Wisconsin Cooperative Extension Response to the Drought.

Database development: UW-Extension Cooperative Extension is in the midst of replacing the legacy planning and reporting database, which was closed in 2012. For this report: The 2012 direct contacts for adults reported are the 4-year average of past performance of relevant statewide teams in 2008-2011. The 2012 program participation is in alignment with previous years. The 2012 direct contacts for youth reported are 4-H enrollments in relevant projects reported on the ES-237 form for 2011-2012.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}