

Nutrient Management

Nutrient Management

V(A). Planned Program (Summary)

1. Name of the Planned Program

Nutrient Management

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	60%			
133	Pollution Prevention and Mitigation	15%			
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	25%			
Total		100%			

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	11.6	0.0	0.0	0.0
Actual	9.4	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 638475	1890 Extension	Hatch	Evans-Allen
	0	0	0
1862 Matching 638475	1890 Matching	1862 Matching	1890 Matching
	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

The statewide Nutrient Management Team is developing an integrated approach to provide programming and research for sustainable nutrient management on Wisconsin farms by combining the interests and skills of personnel from UW-Extension, government agencies, and the private sector. ANRE and CNRED campus and county faculty work with educational partners to provide research-based education and best practices to help farmers manage their nutrient resources to maximize profitability and environmental protection through presentations on farms and in class, field days, farm tours and pasture walks, workshops, conferences and teleconferences; and dissemination of teaching materials through websites, publications, CDs and DVDs.

Nutrient Management Farmer Education (NMFE): Three key programs — on-farm research, trainings and grant funding — intertwine to reach both farmers who seek out research-based education as well as those who lack the means to do so and can benefit the most by adopting best management practices. An interdisciplinary working group of the statewide Nutrient Management Team incorporates the latest research recommendations from UW-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point, Discovery Farms and county agents in updating the NMFE curriculum and training inter-agency instructors. Local collaborations deliver NMFE training to producers, mostly dairy operators, and secure funding for those most in need of nutrient management planning. Trained farmers adopting nutrient management practices in 2006 saved an estimated \$333,000.

Multi-Agency Land and Water Education Grants have helped at-risk farmers develop nutrient management plans and funded more than 100 multi-year nutrient management projects, investing around \$10 million in areas with the most need and greatest potential for benefits. Discovery Farms applied research examines and monitors best practices with both economic and environmental benefits, such as controlling soil erosion, maintaining top yields, and managing nutrients, mainly nitrogen and phosphorus from manure including effects of melting snow. As a result, producers save money while helping improve water quality. Since 2000, more than 1,900 producers farming around 570,000 acres in 42 counties have received in-depth education on nutrient management planning.

Fostering professional practices, ethics and conduct among custom manure applicators: For-hire manure applicators manage about 4 billion of Wisconsin's 12 billion gallons of dairy manure each year, making them major partners in regulatory compliance. UW-Extension responded to their request for professional development with an interagency-industry collaboration to train new and existing firms. The industry now enforces professional standards under UW-Extension guidance, regulators and trained applicators throughout the Great Lakes Region are building mutual trust and cooperation in responding to spills, and firms completing certification trainings pay less for insurance.

2. Brief description of the target audience

The statewide nutrient management team works with a variety of audiences including producers, commercial applicators, manure and fertilizer dealers, and other community members. Nutrient Management Farmer Education students include county and district conservationists, crop consultants, farmers participating in federal cost-share programs, expanding or installing new facilities or referred to UW-Extension for training by conservationists. Of 22,563 adults contacted through direct teaching methods in 2007, 99% were white and less than 1% African American, Asian American, American Indian and other identities; three-fourths were male and one-fourth female. Of these, 1% (145) identified as Latino/a, who may be of any race.

UW-Extension colleagues include Agriculture and Natural Resources Extension campus and county faculty and staff, UW-Madison departments of Dairy Science; Soil Science, Animal Science, Agronomy, Agricultural and Applied Economics; Biological Systems Engineering, Environmental Sciences, Nutrient and Pest Management, agricultural research stations, Discovery Farms, Environmental Resources Center, Local Government Center, Agriculture Innovation Center, UW-Platteville Pioneer Farm, UW-River Falls, and UW-Stevens Point Groundwater Information Center state specialists, geologists and hydrogeologists at the Wisconsin Geological and Natural History Survey, UW-Green Bay, UW-Oshkosh and U.S. Geological Survey.

Farmers and non-farm neighbors: Community leaders, municipal and county officials, dairy and livestock producers and their non-farm neighbors make local decisions consistent with state and federal law and understand the policy implications.

Community partners include professional nutrient applicators and regulators throughout the Great Lakes region, agricultural chemical dealers, local, state and federal agency personnel, farmers, crop consultants and other farm service professionals.

Educational partners include high schools, 4-H clubs and volunteer leaders, area technical colleges, local dairy business leaders and public officials, county land and water conservation departments, regional planning commissions, well drillers, Northeast Wisconsin Karst Task Force, Professional Nutrient Applicators Association of Wisconsin, Wisconsin Department of Agriculture, Trade and Consumer Protection, Wisconsin Department of Natural Resources, U.S. Department of Agriculture Natural Resources Conservation Service Environmental Quality Improvement Program (NRCS EQIP), Wisconsin Milk Marketing Board, farm news media and others.

Ultimate beneficiaries include small-scale and limited-resource dairy, livestock and poultry farmers, rural communities, private well owners, new parents and their babies, farm service providers, agricultural entrepreneurs, non-farm neighbors, lakeshore dwellers, fishers, water recreation enthusiasts, wildlife and future generations.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10000	0	0	0
2007	22563	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

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3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	10	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Direct participant contacts

Year	Target	Actual
2007	10000	0

V(G). State Defined Outcomes

O No.	Outcome Name
1	Producers will gain knowledge of nutrient management strategies.
2	Research and on-farm demonstrations of nutrient management practices will be conducted.
3	Producers will increase profitability through the implementation of improved nutrient management strategies.
4	Producers, agricultural business professionals and others will learn about nutrient/manure management related regulations.
5	Producers will gain knowledge of manure management techniques and strategies.
6	Clients will be provided with effective methods for preparing phosphorus-based nutrient management plans.

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

The University of Wisconsin Discovery Farms Program conducts applied research through a statewide network of diverse owner-operated commercial farms, drawing on the expertise of state specialists from UW-Madison, UW-Platteville, UW-River Falls and UW-Stevens Point, as well as the U.S. Geological Survey (USGS) as an independent science-based partner. USGS staff help design the research projects, install monitoring equipment and work with Discovery Farms to collect and analyze water quality data, bringing farmer and community interests together by using study results for education.

The resulting Nutrient Management Farmer Education curriculum provides the trainings required for certification of farmers writing their own nutrient management plans: Introduction to Nutrient Management Planning; Nitrogen Management (basic and advanced), Phosphorus, Potassium & pH Management (basic and advanced), and manure management. "Optional" training modules answer specific geographic or production questions and address the needs of specialized farmers — Nutrient Management Planning in Wisconsin: Rules, Regulations, and the 590 Standard; Dietary Phosphorus and Nitrogen Management; Karst and Tile Line Concerns; and Nutrient Management for Grazers: <http://www.uwdiscoveryfarms.org/>

The Nutrient Management Farmer Education curriculum contains an evaluation plan that includes pre- and post-workshop assessments as well as comprehensive, long-term assessment. Results of both evaluations are reported individually by UW-Extension county faculty. Statewide Farm Practice Inventory results and trends are reported by water resources education coordinator Ken Genskow, Environmental Resources Center (UW-Madison / Extension).

Key Items of Evaluation