

# Multi-Agency Land and Water Education Grants Used for Nutrient Management Training

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Nutrient management remains at the forefront of environmental issues facing WI livestock and crop producers. The need for producers to develop and implement nutrient management plans has grown substantially as a requirement of government agricultural programs, zoning, livestock siting ordinances, and animal feeding operation permits. Improved nutrient management practices have potential to increase farm profits and reduce detrimental impacts of N and P on water quality. A training need exists to teach farmers nutrient crediting and basic requirements of the nutrient management standard. For best on-farm impact, minimal duplication of efforts, and public fiscal accountability, WI governmental agencies have partnered to deliver this training.

A Multi-Agency Land and Water Education Grant Program (MALWEG) was started in 1997 to encourage integration of educational programming into local WI conservation efforts. Program support and funding comes from the Natural Resources Conservation Service (NRCS), the WI Dept. of Natural Resources (DNR), the WI Dept. of Agriculture, Trade and Consumer Protection (DATCP), the Farm Service Agency (FSA), and the University of WI -Extension (UWEX).

Local projects are each led by their own uniquely defined team, often including University of Wisconsin – Extension County staff, County Land Conservation Departments, County Natural Resources Conservation Service staff, University of Wisconsin – Nutrient and Pest Management staff, and Wisconsin Technical College System Agriculture staff.

Through 2000 – 2005, the MALWEG program has funded 57 projects, delivering nutrient management training to approximately 1,140 WI farmers. This practical mix of class room and on-farm activities assisted farmers to develop their own nutrient management plan based on the USDA Nutrient Management

Standard 590. Training is based on the UW / UWEX Nutrient Management Farmer Education Curriculum, utilizing UWEX soil fertility, crop nutrition, soil testing and nutrient crediting material.

The average farm size for participants is 300 acres. Through the training process, 95 % of participants follow through to develop their own nutrient management plan, resulting in around 1,083 plans on 324,900 acres. A key point in this training and delivery mechanism is that producers voluntarily participate in small group and 1:1 activities, utilizing their own farm information and management goals to actively develop their own nutrient management plan. The end product is a nutrient management plan that each participant owns, understands and is willing to implement as a result of their direct participation in the process.

Most participating farms have been dairies with crop rotations of corn grain and silage, alfalfa hay, small grains and soybeans. One north central WI project has included potato producers. In the newest round of grants, one project has focused on nutrient management for dairies that graze cattle, another new project focuses on nutrient management for crop producers that irrigate and

grow field corn, soybeans, and vegetable crops.

**Each farmer participant receives approximately 20 hours of instructional time, as follows:**

Local nutrient management projects conduct at least 2 workshops with farmer students. One workshop focuses on crop nutrition, soil fertility and nutrient crediting associated with N. A second workshop features the same discussion for P, as well as highlights nutrient management environmental regulations. Each of these workshops consists of 4 hours of small group training, led by the local team staff.

After class room activities, farmers receive on-farm assistance to evaluate livestock manure management activities and current soil testing status. This is where manure spreaders are calibrated, farm specific nutrient crediting details are defined and the farm soil and water conservation plan is evaluated. This interaction can add another 8 hours of 1:1 training.

Nutrient management plans are completed either 1:1 between the trainers and farmers, or students are brought back to a third workshop where they each work on their own plan. The process of finalizing a nutrient management plan will take another 4 hours where project leaders direct participants through the plan development process.

The USDA Nutrient Management Standard (590) has been updated through the years to include renditions dated March 1999, July 2002 and September 2005. Each newer version includes more detail and requirements associated with manure management on critical landscapes, as well as a shift to focus on both N and P nutrient management.

Current WI administrative code ATCP 50 references the March 1999 Nutrient Management Standard. That rendition is often referred to as the N-based standard. WI administrative code is scheduled for updating and will likely include the 2005 version of USDA 590. To date, the Nutrient Management Farmer Education Curriculum is based on the March 1999 version of 590. The curriculum is scheduled for an update in the near future, adding more P-based and critical landscape information, as well as information relevant to an updated 590 Standard.

Through the years, many local projects have had such success with this delivery mechanism that they re-apply and have been accepted through more than one granting cycle. The 57 nutrient management training projects have been conducted in 32 counties, including: Barron, Brown, Burnett, Calumet, Clark, Dane, Dodge, Eau Claire, Fond du Lac, Grant, Iowa, Jefferson, Lafayette, Langlade, Manitowoc, Marathon, Marinette, Oconto, Outagamie, Ozaukee, Polk, Richland, Rock, Sauk, Sawyer, Shawano, St. Croix, Vernon, Washburn, Washington, Waushara, and Winnebago.

Most recently, in 2005, MALWEG funded 16 new applications for local projects to train farmers to develop their own nutrient management plan, utilizing \$ 199,557 in grant money.

## **SNAP Plus & Phosphorus Index**

SNAP-Plus is a Microsoft Windows® based nutrient management planning software program designed for the preparation of nutrient management plans in accordance with Wisconsin's nutrient management standard 590.

SNAP-Plus calculates crop nutrient (N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O) recommendations for all fields on a farm taking into account legume-nitrogen and manure nutrient credits consistent with University of Wisconsin recommendations.

SNAP-Plus calculates a RUSLE 2-based soil loss assessment that allows producers to determine whether fields which receive fertilizer or manure applications meet tolerable soil loss (T) requirements.

SNAP-Plus calculates a rotational Phosphorus Index value for all fields as required for soil phosphorus management.

SNAP-Plus calculates a four-year P balance as required for using soil test P for phosphorus management.

Additional information on both the SNAP Plus software and the phosphorus index can be found at <http://www.snapplus.net/index.php>.