

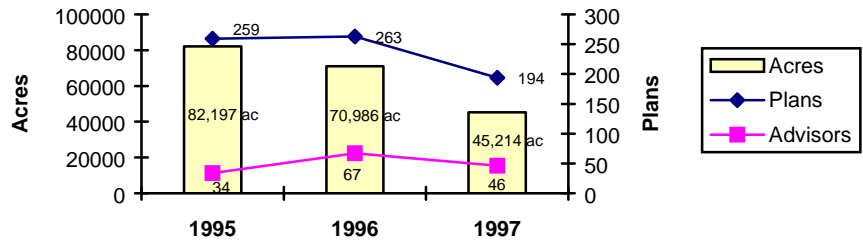
Nutrient Management Briefings - 1997

A Quality Assurance Team review of 1997's growing season's nutrient management plans

Prepared by the Wisconsin Department of Agriculture, Trade and Consumer Protection

This report is directed toward certified crop consultants, conservation staff, and other individuals interested in nutrient management. This report summarizes the findings from the Quality Assurance Team's review of 15 nutrient management plans written for the 1997 growing season. Forms listing the required and recommended components of the nutrient management plan are enclosed.

NM Plans Written for Conservation Programs
Figure 1



Wisconsin's nutrient management (NM) program and the USDA-Natural Resources Conservation Service (NRCS) 590 Nutrient Management Standard were developed to address excess application of plant nutrients. These nutrients, particularly nitrogen and phosphorus, can cause severe water quality problems. Additionally, applying nutrients at rates greater than crop needs can result in unnecessary expense to the farmer.

In an effort to promote nutrient management planning (NM) and to ensure the quality of nutrient management plans, a multi-agency and agri-business group was formed in 1995. The intent of this Quality Assurance Team (QAT) is to review nutrient management plans for adherence to the 590 nutrient management standard. This means following the University of Wisconsin fertilizer recommendations and using a certified soil testing lab. In addition, the plan must be planned or approved by a certified planner addressing the components of the *Nutrient Management Plan Checklist* (enclosed).

Under county, state, and federal programs, a nutrient management plan is required when a landowner accepts government cost-share dollars for the installation of a manure storage facility or barnyard runoff control structures. Cost-share assistance for nutrient management planning, is also available to farmers as a stand alone practice. Contact the county conservation offices in your area for more information on the opportunities available regarding nutrient management planning.

The basis for implementing NM in Wisconsin is to provide an accessible and consistent NM planning service for farmers. Local conservation staff work with county, state, and federal programs to increase statewide adoption of the practice. These plans have been written in accordance with the USDA-Natural Resources Conservation Service (NRCS) 590 Nutrient Management Standard. DATCP tracks NM acreage planned and the number of crop advisors developing these plans.

DATCP compiled this information from *NM checklists* submitted by conservation staff. The *NM plan checklists* are required for every plan written for any county, state, or federal program.

Figure 1 indicates that in 1995, 34 NM planners developed 259 plans on 82,197 acres. In 1996, 67 planners developed 263 plans on 70,986 acres. In 1997, 46 planners developed 194 plans on 47,484 acres. Since 1995, the acres tracked through the *NM Checklists* have decreased. Many of these plans were prepared for the *1995 NM Assessment* project. This project, conducted through DNR watersheds, created NM awareness. However, many of the plans were not maintained. The protection of water quality and the maintenance of the NM practices is most likely to be achieved through annual updates on the NM plans. These annual updates are critical to creating a tailored plan which reflects the farmer's needs for that growing season.

The 1997 Quality Assurance Team members:

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WHERE ARE THE PLANNERS?

A more lasting impression created from the 1995/1996 DNR NM Assessment project is its role in increasing the number of certified NM plan writers. Out of the 35 counties that have reported implementing NM plans in the last three years, 16 counties have stayed constant or improved the number of NM planners in their county as reported by the *NM Checklists*. These counties are:

Counties	Planners	Acres
Clark	1	544
Dodge	4	2,478
Door	4	9,561
Green Lake	1	305
Jackson	1	311
Kewaunee	5	4,086
Lafayette	2	304
Marathon	3	2,712
Ozaukee	1	1,564
Portage	4	3,072
Richland	1	531
Rusk	1	74
Sauk	2	1,150
Sheboygan	4	1,889
Waukesha	1	504
Waupaca	5	3,514
Winnebago	2	1,002

DEVELOPING LOCAL NUTRIENT AND PEST MANAGEMENT USER GROUPS

In counties where nutrient management is just starting to be approached, more technical assistance is needed. The Quality Assurance Team recognizes that public and private sector communication is necessary to improve implementation.

For 1998, DATCP, UW-NPM, NRCS, DNR, and local conservation staff will be initiating the development of nutrient and pest management (NPM) regional user groups to increase the adoption of this practice and the number of planners available. These groups will provide a public and private sector forum to identify local NPM issues and training needs for conservation staff, farmers, and crop advisors.

Every conservation office will need staff to promote and understand NM plans. Each county should be a

QAT FINDINGS

As part of the QAT review, individual letters are sent to the NM plan preparers. These letters outline the QAT findings regarding information on fields, soil tests, manure, and the plan printout. The QAT findings for each individual plan have been compiled for the NM plans reviewed since 1995. Generally, three of the four categories used for review have shown good improvements since 1995. However, soil test information has not improved over the three years. It has actually declined by 4% giving an overall grade of 69% in 1997. The main problem with soil testing is that some soil sampled fields exceeded the "1 composite sample per 5 acres" guideline. This problem generally pertained to only a few fields on the farm. Still, improvement is needed.

As for the other categories, we are very pleased with the improved quality of the NM plans and believe our QAT correspondence has been very effective. Figure 2 indicates that the field information supplied to the farmers has improved by 7%, manure information supplied to the farmers has improved by 24%, and the over-all usability of the plan has improved by 5% since 1995. If percentage grades were assigned to these categories in 1997, field information would be at 87%, manure information at 84%, and plan printout at 82%.

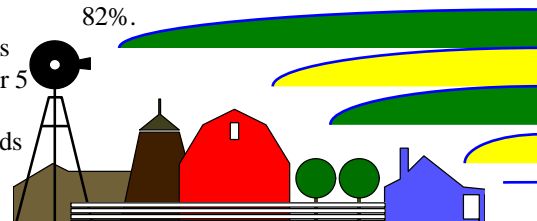
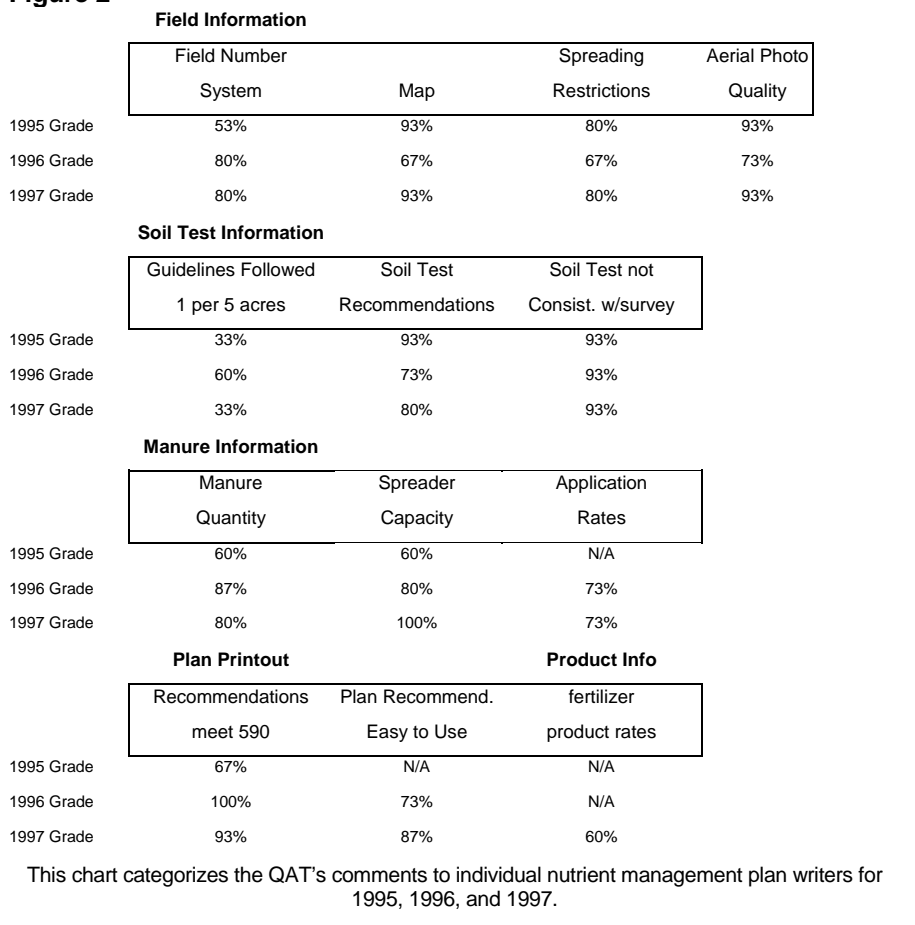
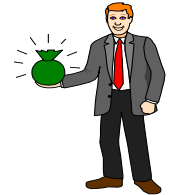


Figure 2



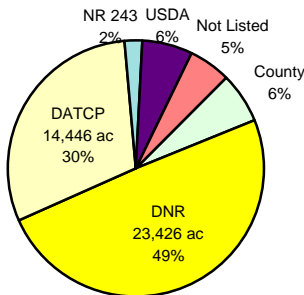
clearing-house of information for crop advisors and farmers. In 1998, DATCP hopes to see at least a 5% increase in planners and a corresponding increase in the total acreage being planned under 590 NM plans. In 1997, approximately 46 certified planners prepared NM plans. Hopefully, regional NM users groups will improve communication with the private sector and bring more of the certified planners to counties needing NM planning assistance. As of October 1996, 463 individuals in Wisconsin have attained certification through the American Society of Agronomy.



COST-SHARE PROGRAMS

Over the past three years, 716 nutrient management plans have been developed for farmers across the state (see Figure 3). The majority of these plans have been developed for participants in Wisconsin's Priority Watershed Program. This program is implemented by Wisconsin's Land Conservation Departments at the county level. Outside of priority watersheds, nutrient

**1997 NM Plan Acres
Figure 3**



management plans have been developed for programs - such as the Integrated Crop Management (ICM) program, the Soil and Water Resource Management (SWRM) program, county manure storage, and zoning ordinances.

THE ART OF NM PLANNING - 1997 WISCONSIN ACT 27

The Quality Assurance Team proThe Governor's Budget Bill will likely reform ways to improve the effectiveness the NM program for 1999. This legislation nutrient management plans when requires DATCP to develop administrative in the hands of the farmer. There rules to improve agricultural nutrient management in this state. These rules are to success in the planning process. include incentives, education and outreach provisions, and compliance requirements.

1st Work with the farmer to tDiscussions regarding the impact of this they understand where m legislation on agriculture and guidelines to needs to be incorporated e incorporated into DATCP's and DNR's where it should not be applied. p administrative rules will occur in 1998. The development of the administrative rules will where manure should not be appli then follow. Other parts of this legislation include areas of concentrated flow require DNR and DATCP to:

fields exceeding the tolerable soil **ADOPT WATER QUALITY STANDARDS** rate. Other areas that should be Could include both surface and ground water highlighted are those where manu standards for bacteria, phosphorus, sediment, should not be applied without nitrate, protecting public health and welfare. incorporation. These would be ar

within the 10 year flood plain or **DEVELOP PERFORMANCE STANDARDS AND PROHIBITIONS** 200 feet of streams, rivers, or lake

whichever is greater. Other areas **DEVELOP PERFORMANCE STANDARDS AND PROHIBITIONS** manure should be incorporated ar Includes a level of soil and nutrient management which will maintain agricultural productivity while meeting water quality standards. Prohibitions refer to Animal Waste

within 200 feet upgradient of dire, **ADOPT WATER QUALITY STANDARDS** conduits to groundwater (590 NM **DEVELOP PERFORMANCE STANDARDS AND PROHIBITIONS** Organize the nutrient management **ADOPT WATER QUALITY STANDARDS** by the crop to be grown, the rotation, **DEVELOP PERFORMANCE STANDARDS AND PROHIBITIONS** restricting manure runoff.

and field number. This will allow the farmer to easily reference manure and fertilizer recommendations and apply nutrients in conjunction with the field maps.

Translate fertility recommendations to product. Reduce inconvenient calculations for the farmer.

3rd

Start with the fertilizer recommendations from a University of Wisconsin certified soil test laboratory. The baseline needs to be UW soil test recommendations. Credit manure and legumes, and transfer the remaining nutrient need into actual pounds of fertilizer product needed per acre. The art of NM planning becomes apparent in the application where the planner limits nutrient applications to only a few application rates and products that are likely to be used on the farm. The QAT believes that if the nutrient management planner focuses on providing an effective plan that is easy to use, the farmer will reference it. As a long term result, nutrients will be better managed and water quality will improve.

WHAT'S IT WORTH

Various NM projects have been funded by DNR, DATCP and NRCS. Some of these projects have analyzed applications before and after NM planning. The largest project began in 1995 and finished in some counties in 1996. This was a NM Assessment Project that was conducted in seventeen DNR watersheds on approximately 106,000 acres.

These watersheds, scattered across the state, estimated an overall nitrogen reduction of 571,379 pounds. In addition a 1,349,979 reduction in phosphorus could be achieved if NM plans were implemented according to the 590 NM standard. On average, commercial nitrogen fertilizer would be reduced by 5 pounds per acre, while commercial phosphorus fertilizer would be reduced by 13 pounds per acre.

In all these projects, the average participant could saved approximately \$5 per acre on fertilizer costs and the total value of the nutrients in manure and legumes ranged from \$12 to \$15 per acre.

DEVELOP PRACTICES TO IMPLEMENT PERFORMANCE STANDARDS

Includes specific soil and nutrient management practices. Practices must at a minimum address:
ANIMAL WASTE MANAGEMENT
NUTRIENTS APPLIED TO THE SOIL
CROPLAND SEDIMENT DELIVERY

DEVELOP TECHNICAL STANDARDS

Includes specifications for practices such as those contained in the Field Office Technical Guide.

IMPLEMENT THE STANDARDS TO IMPROVE WATER QUALITY

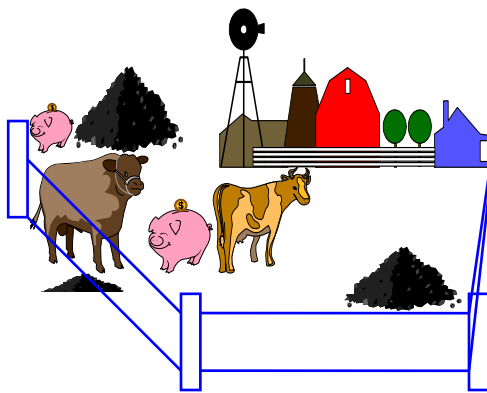
Coordinate the following state and local programs to promote the installation of practices that result in water quality protection with the following tools:
Land and water resource management plans
Local livestock ordinances under 92.15
Other local ordinances
Basin planning
NR 120 Nonpoint source pollution abatement program
NR 243 Animal waste management
ATCP 50 Soil and water conservation and animal waste management

NUTRIENT MANAGEMENT PLAN EFFECTIVENESS

The farmer's response...

As part of the Quality Assurance Team's review of plans written for the 1997 growing season, farmers were asked to answer eight questions on how well they were served by their plan preparers and the state-wide nutrient management education. The questions determined the level of implementation, value of the planning service, and how NM planning could be more widely implemented by themselves and their neighbors.

All of 15 farmers thought the planners took their operation preferences into account. All the farmers thought the plan was easy to reference, even if the QAT did not. Crop nutrient recommendations were followed by 93% of farmers on greater than half of their fields. After following the plan, 60% of the farmers said their profitability improved and 40% were unsure. Plans are likely to be updated next year on 93% of the farms. To increase NM statewide, 36% of the farmers said education and awareness needs to be increased.



Questions, comments, or suggestions about the Quality Assurance Team review of nutrient management plans should be forwarded to:

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5301 Rib Mt. Dr.
Wausau, WI 54401
(715)359-2402

CERTIFIED SOIL TESTING LABORATORIES

All Wisconsin Farm Services Agency (FSA) approved laboratories use similar analytical procedures and follow the University of Wisconsin recommendation program if the sample is identified as being for cost-sharing purposes. In some cases, Wisconsin FSA-approved laboratories may also be providing non-UW recommendations. Quality control samples are periodically sent to each of these labs to standardize procedures and to ensure that instruments are functioning properly. The following are the Wisconsin FSA certified laboratories.

Dairyland Laboratories 217 E. Main Street Arcadia, WI 54612 (608)323-2123	Agsource Soil & Forage Lab 106 N. Cecil Street Bonduel, WI 54107 (715)758-2178
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Rock River Laboratory Route 3, N8741 River Rd Watertown, WI 53904 (920)261-0446	UW Soil & Plant Analysis Lab 5711 Mineral Point Rd Madison, WI 53705 (608)262-4364	UW Soil & Forage Lab 8396 Yellowstone Drive Marshfield, WI 54449 715)387-2523
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QAT Review Timeline -

Date	Activity
May '98	Wisconsin conservation offices are reminded to submit their nutrient management plan checklists for 1998 plans to the Department of Ag, Trade & Consumer Protection (DATCP) members of the QAT.
June '98	Deadline for all Wisconsin conservation offices to submit their nutrient management plan checklists for each plan they received for the 1998 growing season.
June '98	DATCP members of the QAT will request copies of 15 randomly selected nutrient management plans. The entire plan, including all items listed on the nutrient management plan checklist, must be sent for review.
July and Aug. '98	DATCP members of the QAT prepare a preliminary review of the randomly selected nutrient management plans. Issues needing discussion with the full QAT are identified.
Sept. '98	QAT Review
Nov. '98	Individual letters identifying specific QAT review comments will be sent to the respective plan preparers. A report containing a summary of the QAT findings will be sent to all certified nutrient management planners.

1998