NPM Field Notes

March-April 1992, Vol. 3, Issue 2 Wisconsin Nutrient and Pest Management Program Update

Forage Legume Nitrogen Credits Revised

In February, the U.W.-Madison Department of Soil Science announced revised nitrogen crediting values for forage legumes grown in rotation with grain crops. The new legume crediting system has been changed to reflect research data gathered since 1988 from numerous locations and soils in Wisconsin.

The general observation has been little or no yield response from applied nitrogen for first year corn following alfalfa on medium or heavier textured soils. Where yield responses were seen, the amount nitrogen supplied by the legume was related to stand density and timing of the last cutting.

The nitrogen credits have been adjusted upward to reflect these research findings. Note that these changes pertain only to forage legume credits. Nitrogen credits for soybeans, green manure crops, and legume vegetable crops remain the same.

As shown in the illustration, the amount of the forage legume nitrogen credit depends on stand density and the time of the last cutting. A good stand of alfalfa (70-100% alfalfa) has greater than 4 plants/ft^2; a fair stand (30-70% alfalfa) has 1.5 to 4 plants/ft^2; and a poor stand (<30% alfalfa) has less than 1.5 plants/ft^2. If the legume was harvested after September 10 of the previous year, the nitrogen credit should be reduced by 40 lb/acre.

A second year nitrogen credit of 50 lb/acre can be taken from fair or good forage legume stands on medium and finer textured soils. ❖

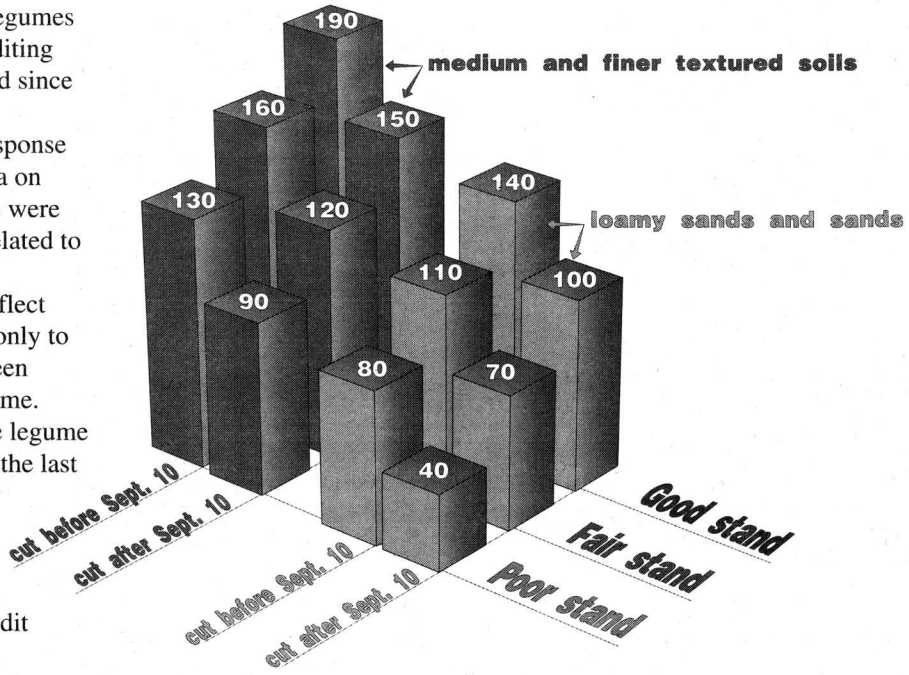


Figure 1. Nitrogen credits for alfalfa on Wisconsin soils. *(Credits for red clover or birdsfoot trefoil are 80% of those for alfalfa.)*

In this issue...

Developing Your Own Soil Nutrient Management Plan

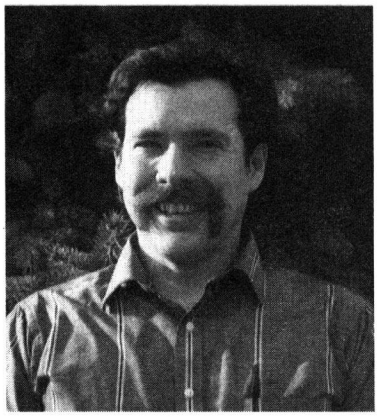
A new and timely educational program was offered to farmers in southeastern Wisconsin over the winter months. The pilot workshops entitled, *Developing Your Own Soil Nutrient Management Plan*, were coordinated by Richard Proost, NPM Southeast Regional Specialist, in conjunction with Dick Wolkowski of the UW-Madison Department of Soil Science and county Extension Agents. The intent of the workshops was to familiarize growers with the steps used in fertilizer recommendation reports. Farmers were encouraged to bring along a current soil test report so that each component of the field-specific report could be discussed. Specific topics covered included: soil sampling, nutrient crediting from legumes and manure, soil testing for carry-over nitrogen, estimating manure application rates, forms and management of various fertilizer sources, and determining specific crop nutrient requirements.

The workshops were brief, less than two hours, so as not to tie up the whole day for participants. The number of participants was limited in order to give individual attention to all. Sessions were repeated if interest was high. To date, nutrient management planning workshops have been held in Jefferson, Dodge, and Sheboygan Counties. Based on the positive response of most participants, the workshops will most likely be continued and expanded to other areas of the state in the future. ❖

NPM profile: *Karl Hakanson*

Karl Hakanson has joined the staff of the Narrows Creek-Middle Baraboo River Priority Watershed Project in Sauk County. He will serve as an education specialist with ties to the NPM program.

The watershed project is administered by the Sauk County Land Conservation Department and Karl is headquartered at the county UWEX office.



Education specialist, Karl Hakanson

Karl has a Bachelor of Science degree in Agriculture from UW-River Falls and is currently completing a M.S. degree in Land Resources at UW-Madison. Karl's graduate studies involved working on Peter Nowak's water quality team which developed the Farm Practices Inventory (FPI) and investigating the use of on-farm demonstrations.

This background should be very helpful in Karl's watershed activities. He will be developing educational programs for watershed residents utilizing information gained from the FPI survey conducted in the Narrows Creek-Middle Baraboo Watershed. Karl is planning on dedicating a good deal of effort on programs dealing with manure and overall nutrient management.

Karl looks forward to getting to know the Sauk County community and "working with farmers and others to protect and improve water quality - as well as farm profitability - within the watershed." Karl can be reached in the Sauk County UWEX office at 608-355-3258. ❖

Rotational Grazing Added to Whole Farm Project

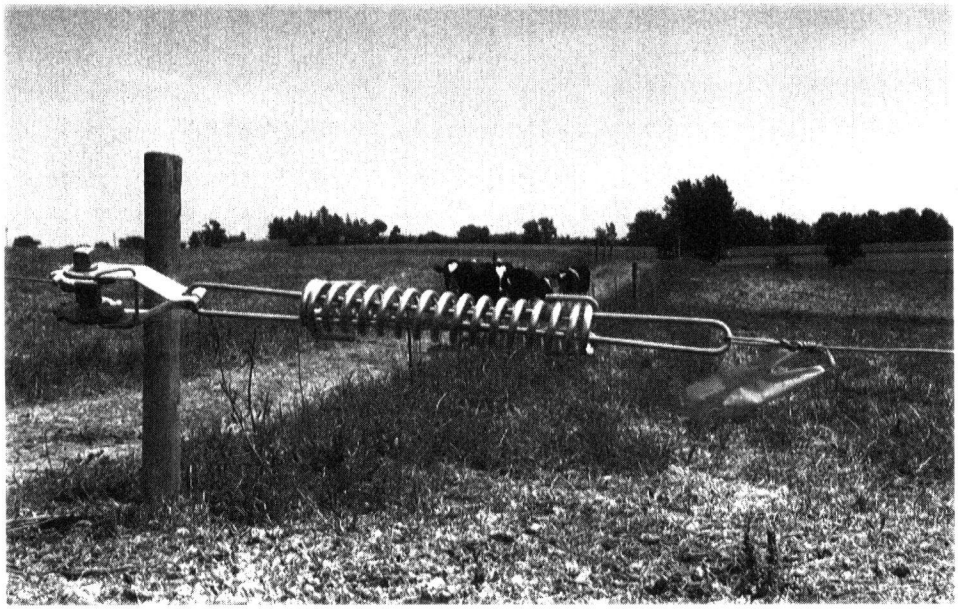
The farm papers have been filled with enthusiastic reports of the profitability and "enjoyability" of rotational grazing - but does grazing have a benefit toward improving water quality?

This winter, NPM has added Sauk County farmers Larry and Bridget Mundth, to the Whole Farm Nutrient and Agrichemical Budgeting Project to try to find out. The Mundth's are beginning to use rotational grazing for their dairy herd and will provide an interesting comparison to the three conventional dairy systems already in the project.

Pam Porter, NPM South-Central Regional Specialist, and Karl Hakanson, Information and Education Coordinator for the Narrows Creek-Middle Baraboo River Watershed, will be working with the Mundth's on this demonstration project. Their first objective will be developing a whole farm record keeping book that will be useful for a grazing farm. Record keeping will include such things as stocking rate, paddock yield, quality and composition, equipment and even herd health.

"If rotational grazing is half as good as some people claim, then we need to document its worth. Our job will be to document how grazing will affect profits, water quality, and farm labor requirements." says Hakanson. Porter adds, "It certainly looks like rotational grazing is a promising alternative for many farms in Wisconsin. We are excited to be working with the Mundth's on this venture."

The funding for this demonstration farm is provided by the Center for Integrated Agricultural Systems (CIAS), who has funded several research projects on rotational grazing. CIAS is looking to NPM to keep track of the Mundth's goals and objectives for their farm as well as important socio-economic factors involved in the transition to rotational grazing. ❖



Impact of Atrazine Rule Studied

by Robin Shepard

The impacts that atrazine restrictions are having on Wisconsin farmers are being investigated in a study funded by the Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP). Professor Peter Nowak (a NPM Technical Advisory Committee Member) has been awarded a grant to evaluate farmer response to the Wisconsin Atrazine Rule (Ch. Ag 30, Wis. Adm. Code).

Specifically, Nowak will study farmers within Atrazine Management Areas (AMAs). AMAs are regions of the state where the use of the popular corn herbicide is restricted to a greater extent than other parts of the state. The boundaries of AMAs are defined by WDATCP and are based on the results of drinking water well tests. Areas with wells containing higher frequencies and levels of atrazine contamination than the surrounding area and the state as a whole are designated AMAs.

Nowak and a team of researchers, including NPM Co-Director Larry Binning, plan to begin collecting baseline data in August. The study will examine the influence of AMA designation on corn weed control strategies. These observations will be compared with observations from matched areas of the state that are not AMAs. According to Nowak, the impact of the atrazine rule on weed control in corn production will be reflected in the knowledge and behavior of the producers.

The project will send surveys to farmers operating land in AMAs within Columbia, Dane, Green, Lafayette, and St. Croix Counties. Surveys will also be sent to farmers living outside of AMAs, but with similar agronomic and socioeconomic characteristics.

A second phase of the project will include a follow-up survey within two years to determine if change has occurred in weed management strategies, and if any changes can be attributed to AMA designation. ❖

The Importance of NPM Advisory Committees

How important are advisory committees to the NPM program? As Jeff Wyman, NPM Co-Director, observes, "We consider the opinions from members of the regional advisory committees and our technical advisory committee essential. Each provides feedback on how well the program is doing and tells us what issues will need increased emphasis in the future."

Each regional committee is charged with assuring that the state-wide direction of the NPM Program is locally adapted. For example, on December 11, Karen Talarczyk, Southwest Regional Specialist, met with 12 regional advisory committee members at the Lancaster Ag Research Station. Eight are farmers including the NPM demonstration farm cooperators. As part of the day, they addressed the question, "What incentives or cost-sharing could landowners be given to more easily and readily adopt management practices, especially those centering on better use of on-farm resources?" Their recommendations included locally available portable scales for weighing manure spreaders, a video on soil profile nitrate testing, cost-share loan agreements with dealers for machinery needed to adopt new practices, and a soil profile nitrate testing program which includes furnishing a soil probe, a farm visit to choose fields for testing, and free analysis.

The Southeast Regional Advisory Committee gathered with Richard Proost, Jeff Wyman and Kit Schmidt on March 18 to discuss which best management practices should be promoted in the region and how to increase the effectiveness of the demonstrations. The message was clear that the committee wanted more local ownership of the process, recommending that more demonstrations have local sponsorship with farm supply businesses and that publications on demonstration results be broken down into regional reports.

Irv Synder, Spring Green dairy farmer, chairs the NPM South-central Regional Advisory committee which also met in February. The committee endorsed NPM's whole farm nutrient budgeting projects. They recommended the NPM program expand its farm demonstrations beyond corn and not ignore the issues of urban water quality.

In NPM's northwest region, advisory committee members are interested in focusing efforts on manure management. Specifically, promoting techniques for estimating manure application rates so appropriate nutrient credits can be taken. To achieve this, Paul Kivlin, in conjunction with local cooperators, are

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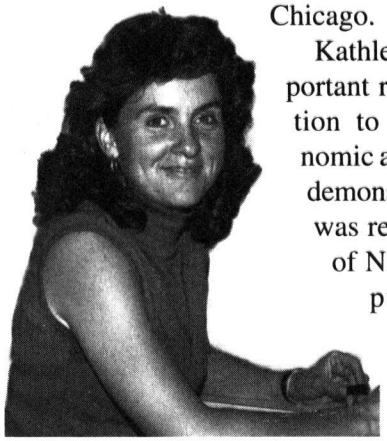
Best of Luck, Kathleen

It is with regret and best wishes that we have to say good-bye to Kathleen Duffy. Kathleen, who served the dual roles of economist to the NPM Program and editor to the Center for Integrated Agricultural Systems, is leaving us to move to Chicago.



Kathleen filled a most important role for us. In addition to the in-depth economic analysis of the NPM demonstration projects, she was responsible for some of NPM's most popular publications. We wish you the best in all your future endeavors Kathleen!! ❖

Nitrogen Credits for Legume Forages.

Legume Crop	N Credit	Exceptions
Forages		
First year Credit		
Alfalfa	190 lb N/acre for a good stand[1] 160 lb N/acre for a fair stand[1] 130 lb N/acre for a poor stand[1]	Reduce credit by 50 lb N/acre on loamy sands and sands. Reduce credit by 40 lb N/acre if stand was harvested after Sept. 10 of the previous year.
Red clover, Birdsfoot trefoil	Use 80% of alfalfa credit	Same as for alfalfa.
Second Year Credit		
Fair or good stand	50 lb N/acre	No credit on loamy sands and sands.

[1]A good stand of alfalfa (70-100% alfalfa) has greater than 4 plants/ft^2; a fair stand (30-70% alfalfa) has 1.5 to 4 plants/ft^2; and a poor stand (<30% alfalfa) has less than 1.5 plants/ft^2.

Advisory Committees *(continued from page 3)*

conducting a number of manure spreader calibration clinics using portable scales this summer and fall.

Recognizing the excellent ideas being generated, NPM Co-Directors Jeff Wyman and Larry Binning are attempting to implement them. To start, following a recommendation of the southeast regional committee, they will ask the NPM Technical Advisory Committee (TAC) to include a farmer member from each regional advisory committee at future TAC meetings in Madison. ❖

Wisconsin Nutrient and Pest Management program provides educational and informational opportunities for Wisconsin farmers, farm supply businesses, and agchemical dealers. NPM is administered through:

University of Wisconsin-Extension
Cooperative Extension Service

College of Agricultural and Life Sciences
University of Wisconsin-Madison

NPM

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