

# Nutrient Management Briefings – 2006

## A Quality Assurance Team Review of 2006's Nutrient Management Plans

Prepared by the Wis. Department of Agriculture, Trade and Consumer Protection

This report summarizes the status of nutrient management (NM) in Wisconsin and describes the findings from the Quality Assurance Team's (QAT) review of 15 NM plans written for the 2006-growing season. This report is sent to all qualified NM planners, and those providing planning assistance to agricultural producers.

The 2006 growing season is the 11<sup>th</sup> year of quality assurance review for WI nutrient management plans. The team involved in this 2006 review wants to thank all the 171 planners reviewed, past and present, for protecting WI's agricultural industry and promoting stewardship of our soil and water.

Qualified planners are *certified crop advisors* and *professional agronomists* certified through the American Society of Agronomy. Or, *soil scientists* certified through the Soil Science Society of America. Or, *certified professional crop consultants* certified by the National Association of Independent Crop Consultants. Or, farmers developing their own NM plans and submitting to DATCP a NM Planning Checklist form with their address. As of December 2006, 288 farmers and 717 other certified planners in Wisconsin are considered qualified NM planners compared to the 598 planners in 1999.

### NRCS 590 NM Standard Revision 2005

The USDA-Natural Resources Conservation Service (NRCS) approved a new 590 standard in September 2005. This standard is in the process of being incorporated into Wis. Admin. Code ATCP 50 and was adopted into ATCP 51, livestock siting, in May 2006. The new 590 was changed to improve implementation and environmental protection, containing criteria for surface and groundwater protection by managing the amount and timing of all nutrient source applications. A properly developed and implemented NM plan will reduce risks of acute and chronic runoff, maintain soil productivity, maximize profitability, and achieve realistic crop yields. These annual plans are based on soil tests, UW soil fertility recommendations, and possibly plant analysis.

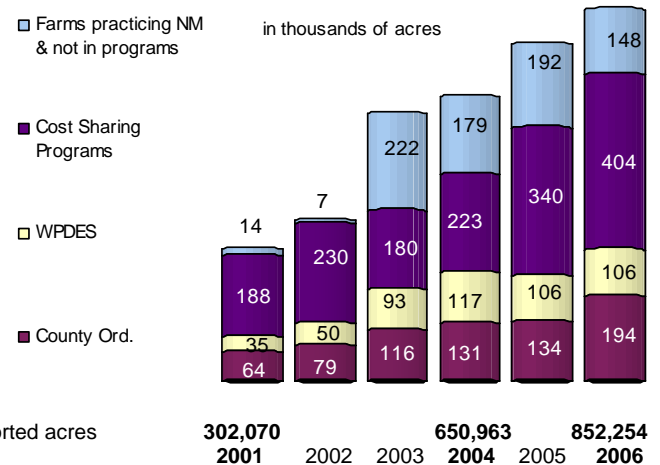
#### The 2006 Quality Assurance Team Members:

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### 2001-2006 Nutrient Management Acres



Total reported acres Year

About 517 NM plans (covering 207,700 acres) reported in 2006 were written to the phosphorus based nutrient management 590 standard. This is a substantial increase from the 38 NM plans (25,260 acres) written to this standard in 2003.

These plans must credit nitrogen from legumes for the first and second year when applicable. These plans must also credit N, P, and K from manure and fertilizer against the soil test recommendations for the crops to be grown.

### Wisconsin Is Making Progress

The DATCP follows NM acreage planned through bulk fertilizer suppliers and through the enclosed *NM Plan Checklist* form submitted by farmers, agronomists, and public agency staff. Suppliers of bulk fertilizer to farmers are required to track nutrient management planning. Bulk fertilizer suppliers reported 1,862 plans covering 852,254 acres in 2006. In 2006, the suppliers reported that 17% of the farmers purchasing bulk fertilizer had 590 plans, up 9% since 2005, resulting in 448 more plans and 240,649 more acres in 2006 than in 2003 when this annual survey began.

## Planners' Progress

In 2006, 478 NM planners (288 farmers and 190 agronomists) submitted *Nutrient Management Plan Checklist* forms for 1,657 NM plans covering 721,129 acres. This reported acreage is a 19% increase from the acres reported in 2005. The NM plans were reported from 54 counties in 2006, an increase of 4 or 5 counties every year since the 40 counties reporting in 2003. Of the 721,129 acres reported in NM plan checklists, 288 farmers are writing their own plans on 75,762 acres, a 23% decrease in plans and a 16% decrease in acres over 2005, which may be attributable to less reporting of these plans to the DATCP. In contrast, 190 private agronomists reported 1,369 NM plans for county, state and federal programs. These plans cover 645,367 acres or 23% more acres and 30% more plans from 27 more agronomist planners reporting than in 2005. The number of NM plan checklists has been increasing by at least 15% per year.

## When Are Nutrient Management Plans Required?

A nutrient management (NM) plan is required when:

1. A producer voluntarily accepts, or is offered, government cost-share dollars for NM or the installation of manure storage.
2. A producer voluntarily continues participation in the farmland preservation program (FPP).
3. A producer is regulated under a county manure storage or livestock siting ordinance.
4. A producer is regulated under a DNR Wisconsin pollution discharge elimination system permit (WPDES).

Under existing DNR and DATCP rules, all farmers who mechanically apply manure or commercial fertilizer to cropland (not just livestock operators) must have a nutrient management plan. State law makes enforcement contingent on an offer of cost sharing only for item 1. above. Below shows the programs and their percentage of the NM plans written for 2006.

**Nutrient management planning enforcement** is limited by the availability of cost-share funds and governmental regulation at the state and local levels. Nutrient management planning enforcement can take effect everywhere in Wisconsin after January 1, 2008.

## 2006 NM Plan Review Summary

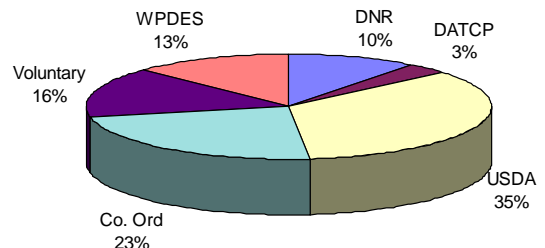
Every year the NM plan review is focused on planners that have not been reviewed recently or ever. Our hope is that in reviewing new planners we will improve the plans written in future years. We try not to review the same NM planner more than once. However, eight nutrient management planners have been selected twice because a county was in-line for a review. Two planners reviewed this year were reviewed previously. Compared to previous years, we see above average improvement in the field map information and the plan printout, but the 2006 NM plans were below average regarding manure and soil test information.

### Soil Erosion Control:

The 2006 Quality Assurance Team found 7 of 15 plans to be missing soil erosion control information that did not allow us to determine if the plan complied with the 590 standard. This was the main problem we found in our review. Some of the NM plans did not develop a crop rotation with tillage beyond the 2005 and 2006 growing seasons. Developing the crop rotation allows soil loss, P management, and future nutrient applications to be calculated and planned for, even if the plan changes.

The conservation plan's soil loss summary needs to be included in the NM plan and it needs to contain the current crops grown on the farm. A great way to incorporate the conservation plan into a nutrient management plan is to use the Snap Plus nutrient management planning software. Even if a conservation plan is not available, a soil loss assessment and a nutrient management plan can be developed using the same soil loss calculations as the conservation offices would use. In addition, Snap Plus gives the user the ability to update the plan as cropping and tillage changes.

2006 Percent of Total Acres by Program



### 2006 Nutrient Management Plans

- Voluntary** = (bulk fertilizer survey) – (total NM checklists reported)
- WPDES** = DNR permitted farms from NM Checklist
- DNR** = priority watersheds + TRM projects from NM Checklist
- DATCP** = manure storage cost share + FPP from NM Checklist
- USDA** = EQIP cost share from NM checklists
- Co. Ord** = county manure storage ordinances from NM Checklist

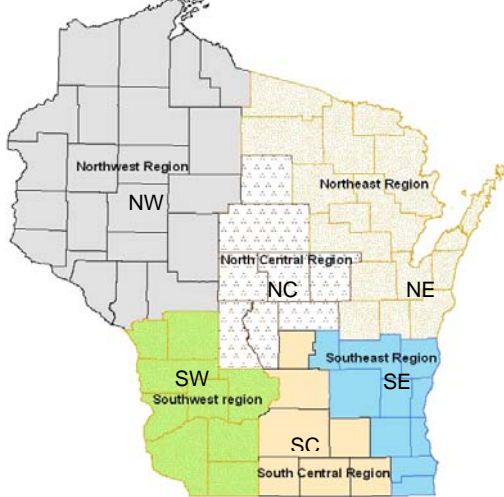
**SNAP PLUS In 2005 and 2006:** Over 330 people have been trained on using the Snap Plus program. Of those that provided us with an evaluation (182), the majority of them were public agency or educators (83), followed by agronomists (70). From the end of February to the beginning of July 2006, Snap Plus was downloaded 614 times along with approximately 1900 copies of the Snap Plus manual. Get SNAP-Plus nutrient management software from <http://www.snapplus.net/> for free.

**2006 NM Plan Review Summary continued**

Manure Information:

We saw 4 of the 15 plans provided multiple or complicated manure applications rates. It is best to keep it simple. We recommend one or two application rates per farm. The remaining nutrient need can be filled with commercial fertilizer if necessary. In 4 of 15 plans, no manure spreading calibration or application method was mentioned. A good place for this important information would be the plan narrative. See insert.

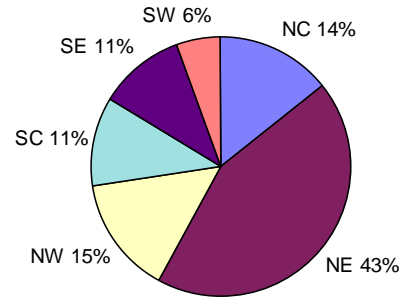
**Nutrient Management Regions**



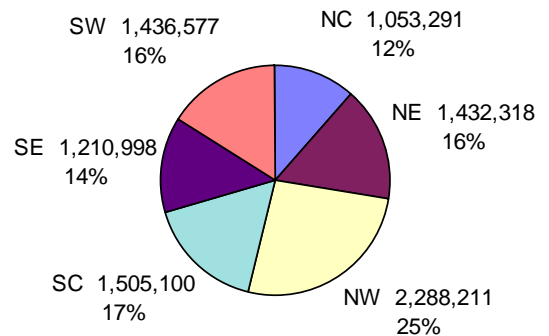
Soil Test Information:

Twelve of 15 NM plans complied with UW Publication A2100, *Sampling Soils for Testing*. These soil samples followed the 1 soil sample per 5 acre requirement and used the soil map unit that corresponds with the soil survey. It is important to follow the sampling requirements and use the correct soil for the field in order to provide a recommendation that will not under supply or over supply nutrients. Planners that select the most dominant critical soil type that covers 10% or more of the field are using the correct soil for the field. To learn more about basic planning concepts for RUSLE 2, go to <http://www.wi.nrcs.usda.gov/technical/consplan/rusle.html> and select RUSLE 2 Planning Choices.

**Percent of 2006 NM Plan Acres by Region**



**WI Cropland Acres by Region**



Wisconsin certified soil testing laboratories helps us provide UW recommendations as well as providing the information for us to look at NM trends in WI. Since 1964 over 4 million samples have been analyzed. The latest information summarizes approximately 685,000 soil samples tested during 2000-2004 from Wisconsin farmland. The *Wisconsin Soil Test Summary: 2000-2004*, written by Peters, UW Soil Science says: Soil test phosphorus (P) results show average soil test P for all Wisconsin farm soils increased slightly to 53 ppm in 2000-04 from 52 ppm in 1995-99. When the first Wisconsin soil test summary was done forty years ago, average soil test P value for all farm soils was 29 ppm.

**The Wis. DATCP Certified soil testing laboratories are:**

UW Soil & Plant Analysis Laboratory 5711 Mineral Point Road Madison, WI 53705 Ph: (608) 262-4364	UW Soil & Forage Laboratory 8396 Yellowstone Drive Marshfield, WI 54449 Ph: (715) 387-2523
Dairyland Laboratories 217 E. Main Street Arcadia, WI 54612 Ph: (608) 323-2123	Agsourc Soil & Forage Laboratory 106 N. Cecil Street Bonduel, WI 54107 Ph: (715) 758-2178
Rock River Laboratory Route 3, N8741 River Road Watertown, WI 53904 Ph: (920) 261-0446	A&L Great Lakes Laboratories 3505 Conestoga Drive Fort Wayne, IN 46808 Ph: (219) 483-4759
Mowers Soil Testing Plus, Inc. 117 E. Main Street Toulon, IL 61483 Ph: (309) 286-2761	

*Wisconsin Soil Test Summary: 2000-2004 continued:*

Applying no more than recommended rates of phosphate fertilizer and/or crediting manure nutrients have become more common practices on Wisconsin farms and is reflected by the slowed rate of overall increase since 1990. The summary shows 46 WI counties had their average soil test P level increase, while 26 of 72 counties had either no increase or a decrease in soil test P after regular upward trends in soil P levels since 1964. The northern counties of Langlade and Oneida where soils are intensively managed for potato production had the highest soil P levels.

**2005 & 2006 County Cropland with NM Plans from NM Checklists**

County	Region	2006 NM reported acres	%of county cropland in NM plan	# Plans in NM change from 2005	# Acres in NM change from 2005	2005 NM reported acres	%of county cropland in NM plan
		<b>In 2006</b>			<b>In 2005</b>		
Counties reporting more than 20% of their cropland acres under NM in 2006	BROWN	79,603	52%	33	10,125	69,478	46%
	DOOR	25,384	31%	6	4,779	20,605	25%
	KEWAUNEE	35,965	29%	11	3,841	32,124	25%
	LA CROSSE	19,317	25%	6	1,477	17,840	23%
	MANITOWOC	46,709	25%	36	21,410	25,299	14%
	MARATHON	64,797	23%	64	26,977	37,820	13%
	OCONTO	27,205	22%	18	5,312	21,893	18%
		<b>In 2006</b>			<b>In 2005</b>		
Counties reporting 15% to 20% of their cropland acres under NM in 2006	CLARK	47,250	18%	18	7,107	40,143	15%
	FOND DU LAC	46,490	18%	5	6,488	40,002	16%
	MARINETTE	14,459	20%	9	8,252	6,207	8%
	OUTAGAMIE	37,679	20%	38	7,218	30,461	16%
	PEPIN	10,746	18%	8	3,494	7,252	12%
	WASHINGTON	19,761	20%	28	12,591	7,170	7%
	WINNEBAGO	21,387	19%	12	5,400	15,987	14%
		<b>In 2006</b>			<b>In 2005</b>		
Counties reporting 14% to 3% of their cropland acres under NM in 2006	SHAWANO	23,064	14%	-2	2,217	20,847	13%
	EAU CLAIRE	13,131	13%	-5	959	12,172	12%
	WAUPACA	18,693	13%	13	5,144	13,549	9%
	DANE	40,637	11%	18	2,590	38,047	11%
	PIERCE	15,121	10%	7	3,406	11,715	8%
	WAUSHARA	10,294	9%	6	1,477	8,817	8%
	WOOD	8,466	8%	16	3,264	5,202	5%
	TAYLOR	7,852	7%	33	7,681	171	0%
	GREEN LAKE	5,952	6%	16	4,965	987	1%
	JEFFERSON	8,465	5%	6	(680)	9,145	5%
	IOWA	7,625	5%	19	6,361	1,264	1%
	PRICE	1,780	5%	9	1,780	0	0%
	ASHLAND	904	4%	0	904	0	0%
	COLUMBIA	9,050	4%	12	8,561	489	0%
	GREEN	7,947	4%	5	2,914	5,033	2%
	OZAUKEE	1,900	4%	2	1,481	419	1%
	WALWORTH	7,265	4%	13	4,482	2,783	2%
	BAYFIELD	1,518	3%	4	1,518	0	0%
	GRANT	9,967	3%	6	1,914	8,053	3%
RUSK	1,789	3%	1	29	1,760	3%	
Reporting 2% or less of co. cropland in 2006 NM plans:	Adams 746 ac, Barron 230 ac, Buffalo 2,389 ac, Calumet 76 ac, Dodge 153 ac, Douglas 318 ac, Dunn 31 ac, Jackson 462 ac, Kenosha 192 ac, Lafayette 781 ac, St. Croix 2,670, Rock 6,531 ac, Waukesha 1,206 ac, Richland 994 ac, Lincoln 266 ac, Portage 1,115 ac, Racine 819 ac, Sauk 837 ac, and Sheboygan 2,019 ac.						

**It's Remarkable!**

In 2006, we saw 14 counties reporting more than 15% of their cropland acres under nutrient management plans. This is a large increase compared to the 8 counties reporting at this level in 2005. See *2005 & 2006 County Cropland with NM Plans from NM Checklists* table.

Eighteen of the 72 counties in Wisconsin did not report any nutrient management plans in 2006. These counties include: Burnett, Chippewa, Juneau, Langlade, Marquette, Monroe, Polk, Sawyer, Trempealeau, and Washburn Counties that have reported in previous years. Other counties that have never reported nutrient management plans for any program to DATCP include: Crawford, Florence, Forest, Iron, Menominee, Milwaukee, Oneida, and Vilas Counties.

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

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