

WI Nutrient Management 2009



Sue Porter, DATCP

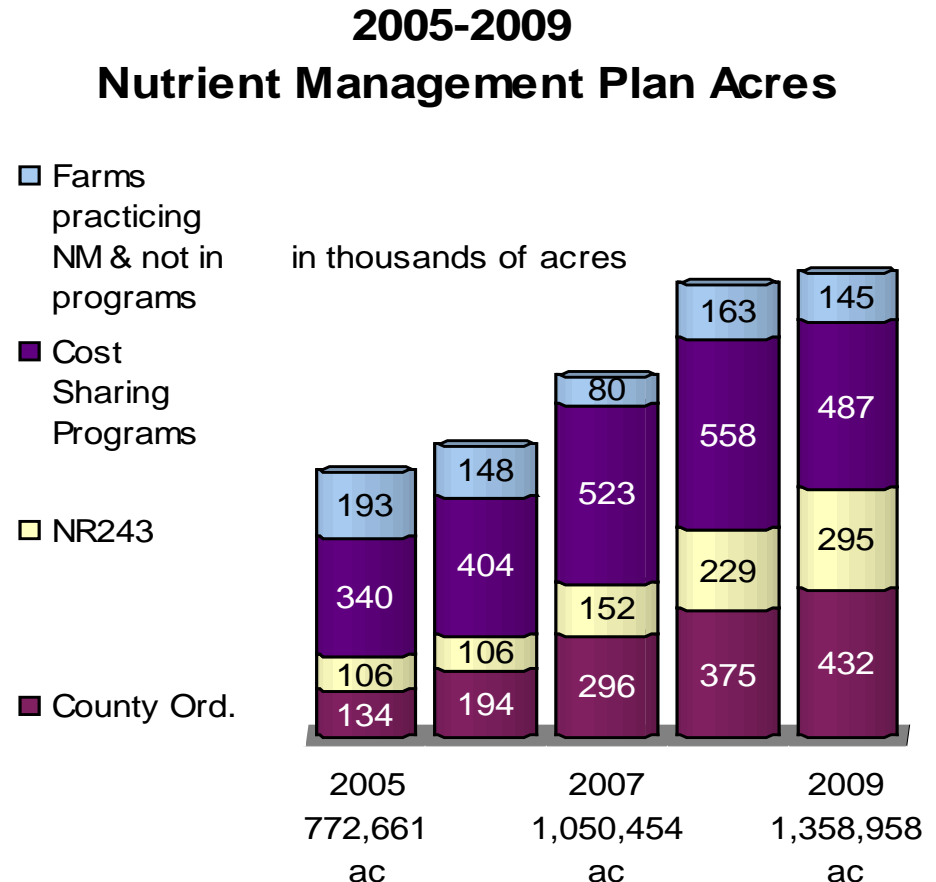
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www.datcp.state.wi.us/arm/agriculture/land-water/conservation/nutrient-mngmt/planning.jsp

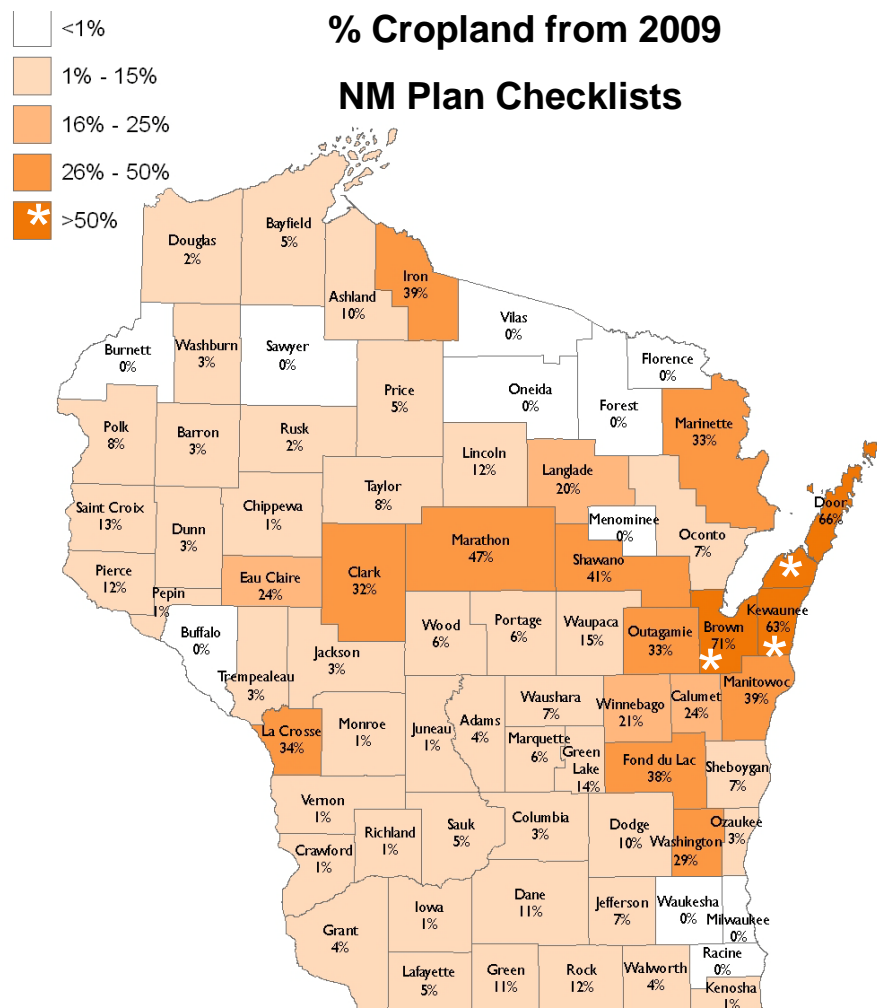
Nutrient Management - What's New?

- 1.35 million acres NM plans reported in 2009 ~ same as last year
- 618 farmer wrote their own plans on 180K ac 213 more farmers than last year
- New Working Lands Initiative brings \$27M to participating WI farmers
- Prelim 2010 DATCP grants \$:
 - Very limited LCDs NM cost share - \$3.5 M lapse for 2010
 - Same as 2009 ~\$500K Implementation support: UW-Soils, UW-NPM, UW-Discovery Farms, MALWEG, Technical Colleges



2009 NM plans cover about 15% of WI cropland

Marathon NMP 136K ac, 27K ac increase from 2008 (47% of cropland)



These counties showed the greatest increase in NM acreage between 2008-09

County	Increase of Cropland (ac) with NM plans
Kewaunee	47,231
Fond du Lac	40,432
Dodge	32,831
Clark	31,606
Manitowoc	29,326
Marathon	27,408
Door	23,013
* Polk, Eau Claire, La Crosse, Shawano, and Brown Counties increased NM plan acres anywhere from 10,000 to 20,000 acres.	

NM Plan Checklists were submitted for 64 counties in 2009, 2 more than 2008 and 10 more counties since 2006.

When Are Producers Required to Have a Nutrient Management Plan?

- When offered [70%] **cost-share** for NM
- When accepting **manure storage cost-share**
- When participating in **farmland preservation** or **Working Lands Initiative**
- When regulated under a **county** manure storage or livestock siting **ordinance**
- When regulated under a DNR **WPDES** permit
- Are required to prevent or **mitigate imminent harm** to waters of the state as an emergency or interim response to a grossly negligent pollution discharge

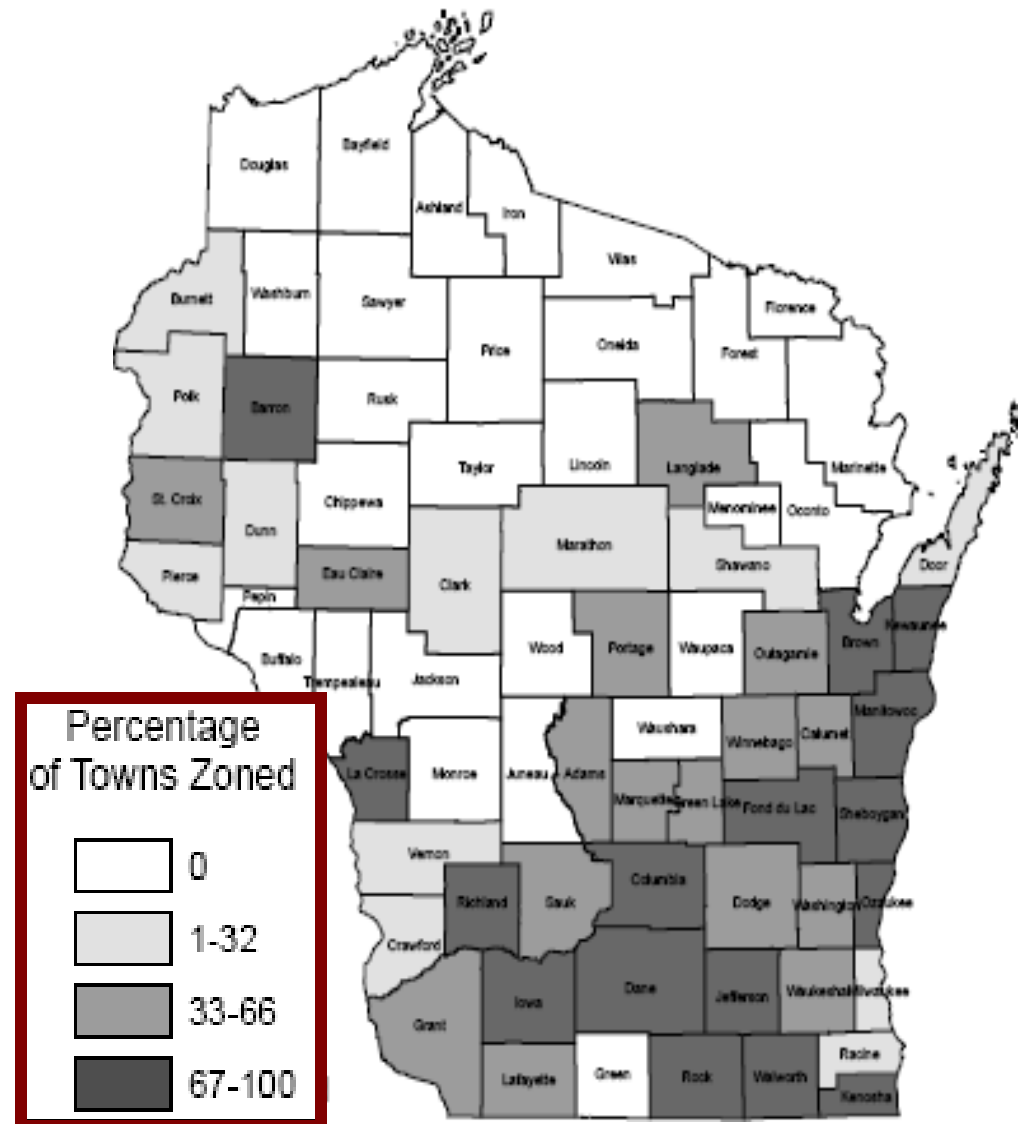
Working Lands Initiative

Exclusive Agricultural Zoning 2006

**Effective
July 1, 2009**

Expands the existing
Farmland Preservation
Program ~18,000
participants

Participants with 2004
agreements or later &
Exclusive Ag Zoning
participants **MUST**
follow ATCP 50 and
NR 151 performance
stds, including NM



Soil & Water Conservation

- Counties must **monitor participant compliance** every 4 years & be monitored by DATCP
- Requires landowner certification, probably using the **NM Plan Checklist** annually
- Persons under an existing FPP Agreement are subject to the standards in place when application submitted
- Persons collecting 2009 tax credits in 2010 will continue to be eligible for the new tax credits paid in 2011 based on meeting a soil & water **schedule of compliance** from the county conservation department.
- Persons not claiming 2009 tax credits paid in 2010 **must be certified by the county** as meeting the soil & water conservation standards to be eligible for the new tax credits paid in 2011.

Checking Compliance

- Crop rotation meeting T with Dominant Critical Soil
- Follow UW soil test recs from a certified lab (5 ac samples for responsive fields)
- Manure allocation matching production for the rotation
- Winter/other spreading restrictions followed

Tax Credits

- **Current FPP tax credits**
 - Located in exclusive agricultural zoning district or Farmland preservation agreement
 - Agreement term = 10 to 25 years
 - Average credit \$650/yr ~\$3.30/acre
- **New Working Lands Initiative tax credits**
 - **Increased value of credit (Available: 2010 tax year)**
 - **\$5.00/acre if farmland preservation agreement in Agricultural Enterprise Area **AEA** (15 year agreements) after July 1, 2009**
 - **\$7.50/acre if located in a Certified farmland preservation zoning district**
 - **\$10.00/acre if agreement in AEA and zoning**

Agricultural Enterprise Areas

- Area devoted primarily to agricultural use and locally targeted for agricultural preservation
- FPP agreements after July 1, 2009 must be within an approved AEA - Petitioners to DATCP from the municipality of at least 5 owners of eligible farms located in a contiguous area - primarily in agricultural use, preference to areas of at least 1,000 acres
- State designates, amends or deletes through Administrative Rule, Public hearing, Legislative notice



Grant Program - Purchase of Agricultural Conservation Easements

- Voluntary
- Protects agriculture
- Deed restriction
- Permanent
- \$12 million available to provide matching grants
 - 50% matching grants and pay transaction costs
- Establishes a Working Lands Trust Fund
 - Funds deposited here may be used for future purchases



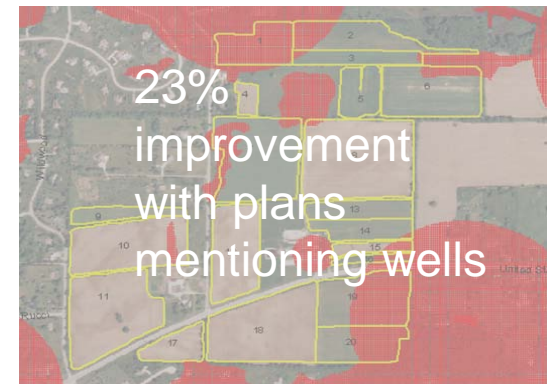
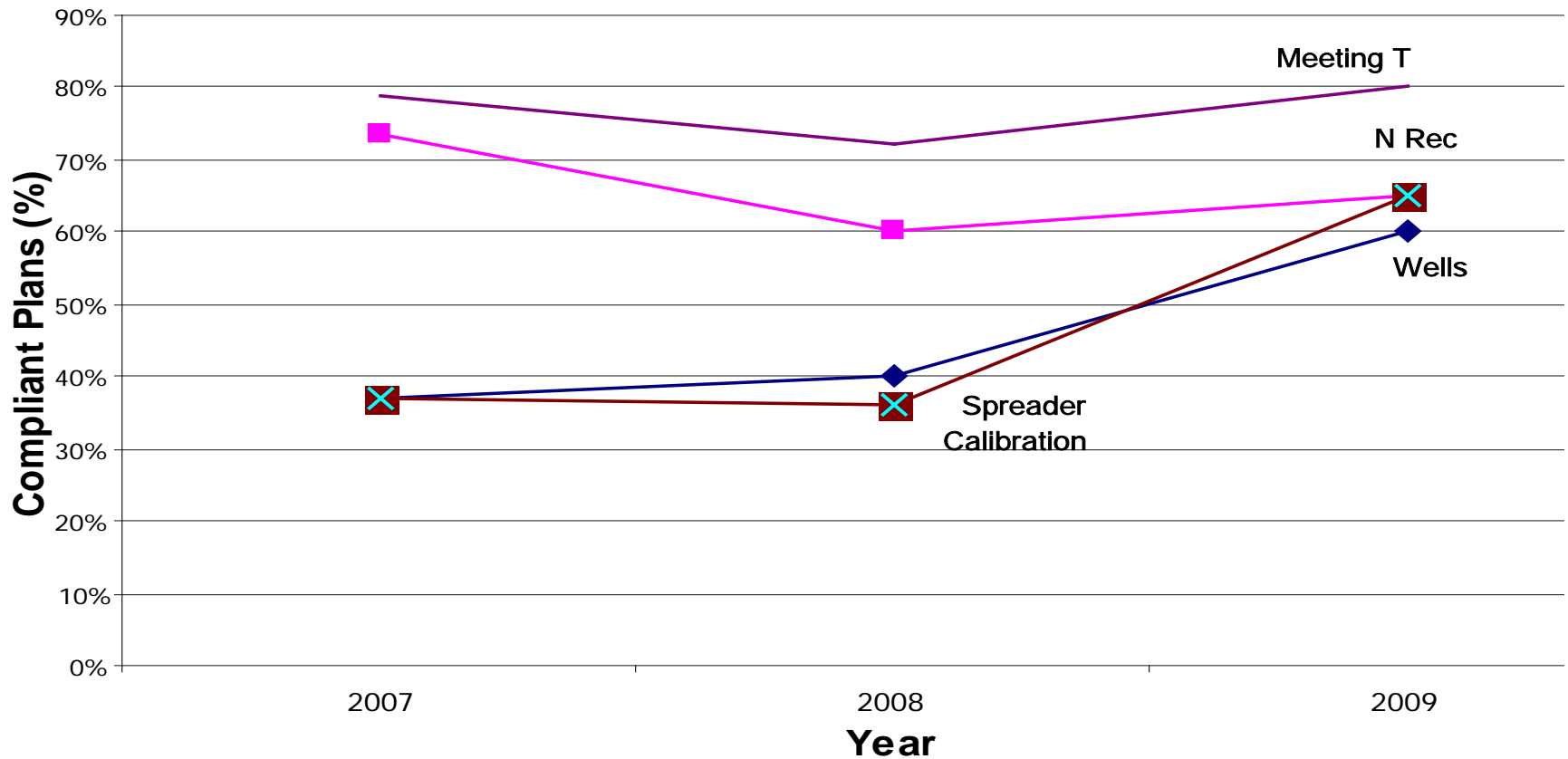
Web: <http://workinglands.wi.gov>



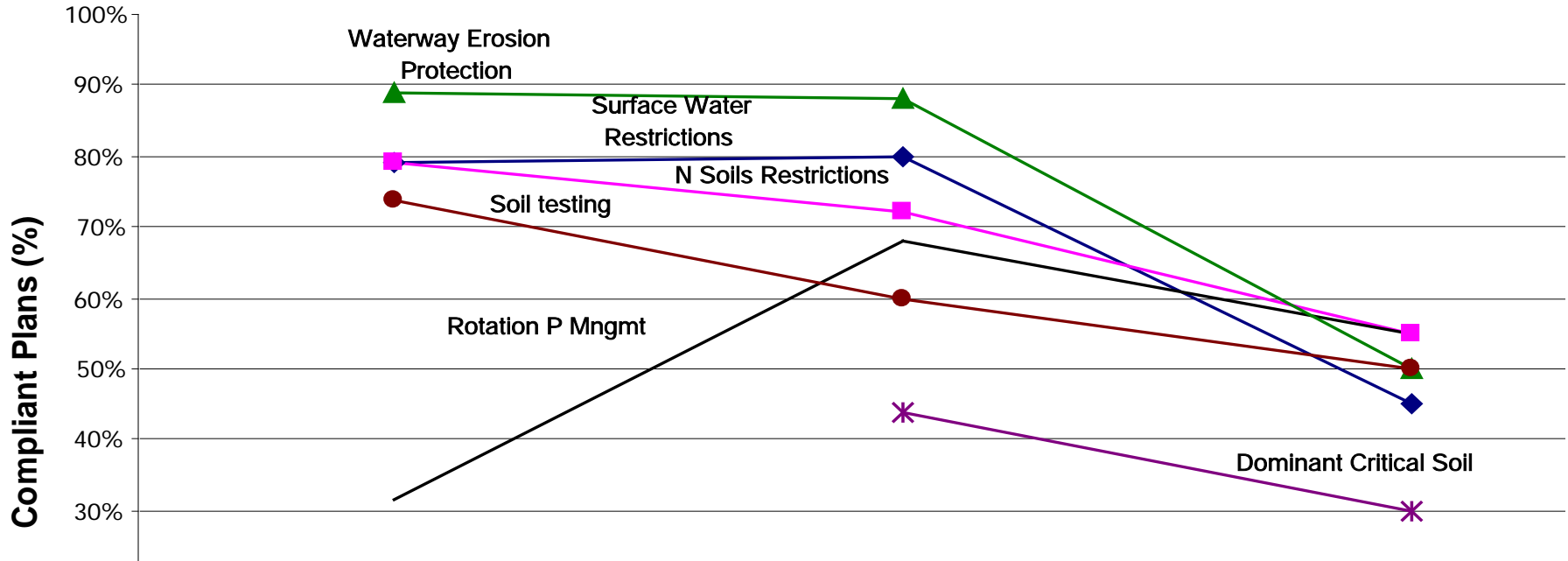
2009 NM Quality Assurance Plan Review

- 13 of 20 (65%) plans met the N rec. A 5% improvement over last year.
- 5 of 20 NM plans reviewed by the QAT didn't use Snap Plus (4 were farmer written plans)

Improved NM Plan Components



NM Plan Components Needing Improvement



Dominant critical soil

the most erosive soil that covers 10% or more of the field. Usually determined by slope (A, B, C, D or E) and/or the soil map unit's "T" level. 6/20 plans used this soil type ↓ 14%

Soil Testing

responsive fields must be 1 sample/5ac. 10/20 plans followed 5 ac requirement ↓ 10%

2008
Year

Waterway protection

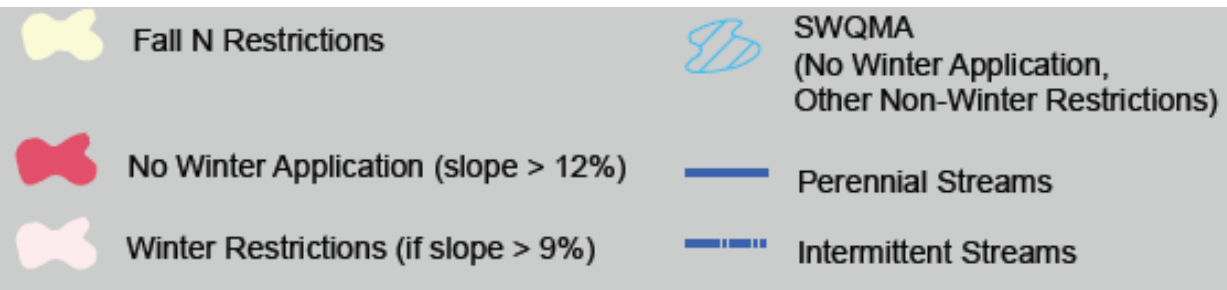
mentioned in 10/20 plans ↓ 38%

T and P management is for the whole rotation. Account for all the manure and P fertilizer. Amend plans annually with crops, applications, and management used. 11/20 plans included P management ↓ 13%

Pastures

- Applications made by grazing animals can use the ***Snap Plus Grazing Calculator*** to explain & manage where all the manure is being applied.
- Include in NM plans:
 - Winter pastures near streams, and
 - pastures with any mechanically applied nutrients

New Spreading Restrictions Maps for the 2009 Growing Season



Maps need to have field boundaries & names & acres

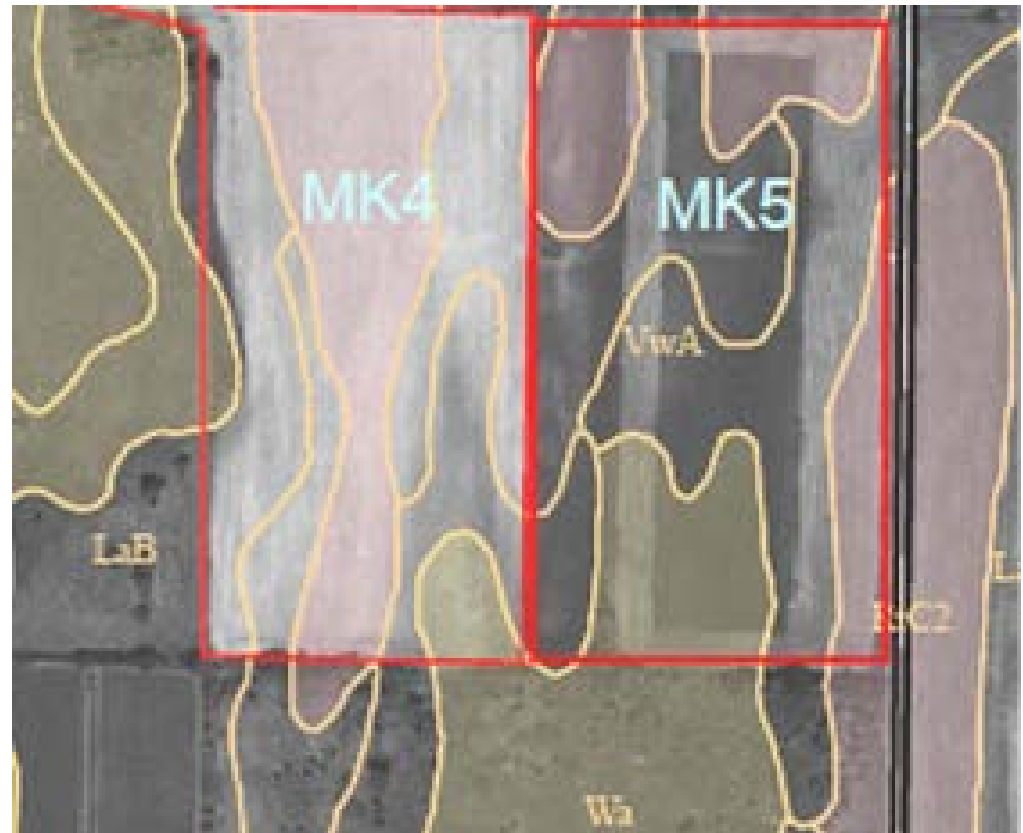
Note restrictions for each field in the plan

45%, 9/20 NMPs included SWQMA info ↓ 35%

55%, 11/20 included Fall N Restricted soils ↓ 17%

65%, 13/20 explained winter restrictions ↓ 19%

80%, 16/20 properly applied in winter ↓ 8%




Spreading Restrictions

Place reminders of spreading restrictions in the *Field screen notes* or in the *Cropping Screen*.

This will show up on the Snap Plus *Spreading plan & NM Plan Sorted by Crop Report* to help follow 590.


Farm
Field
Soil Tests
Nutrient Sources
Cropping

•Get Maps
•Note field attributes



Go to soil and restriction maps

Restriction definitions



FSA Tract #	FSA Field #	Size (acres)	County	Soil Map Symbol	Soil Series Name	N Restriction	Field Slope (%)	Field Slope Length (ft)	Below Field Slope to Water (%)	Distance to Perennial Water (ft)	Rotation Start Year	Field notes
431	1	5.3	WI-Iron	204C	DENOMIE		11	151	6.1 - 12	301 - 1000	2008	Steep,
431	2	6.1	WI-Iron	204C	DENOMIE		11	151	6.1 - 12	301 - 1000	2008	Steep,
431	3	13.4	WI-Iron	444B	GICHIGAMI		4	200	2.1 - 6	301 - 1000	2008	
431	4	12.7	WI-Iron	444B	GICHIGAMI		4	200	2.1 - 6	301 - 1000	2008	
342	1	4.47	WI-Iron	582C	KEWEENAW	P	11	151	6.1 - 12	1001 -	2008	Steep,
342	2	8.53	WI-Iron	444B	GICHIGAMI		4	200	6.1 - 12	1001 -	2008	Steep,
342	3	7.76	WI-Iron	204C	DENOMIE		11	151	6.1 - 12	1001 -	2008	Steep,
342	4	2.94	WI-Iron	204C	DENOMIE		11	151	6.1 - 12	1001 -	2008	Steep,
340	1	17.3	WI-Iron	444B	GICHIGAMI		4	200	2.1 - 6	301 - 1000	2008	
340	2	2	WI-Iron	444B	GICHIGAMI		4	200	More	0 - 300	2008	SWQMA,
									2.1 - 6	0 - 300	2008	SWQMA,
									More	301 - 1000	2008	Steep
									2.1 - 6	301 - 1000	2008	
									2.1 - 6	301 - 1000	2008	
									2.1 - 6	301 - 1000	2008	

Field info text input.

Field notes for field Home 02.


SWQMA, Steep, No winter application.


-
□
x


- # Spring 2010


- T6N R8E
Section 33
Dane Co.**


**Wisconsin 590
Nutrient Management Application Restrictions**


 Fall N Restrictions


 No Winter Application (slope > 12%)


 Winter Restrictions (if slope > 9%)


 SWQMA (No Winter Application, Other Non-Winter Restrictions)

 Perennial Streams

 Intermittent Streams

 PLSS Sections

 N

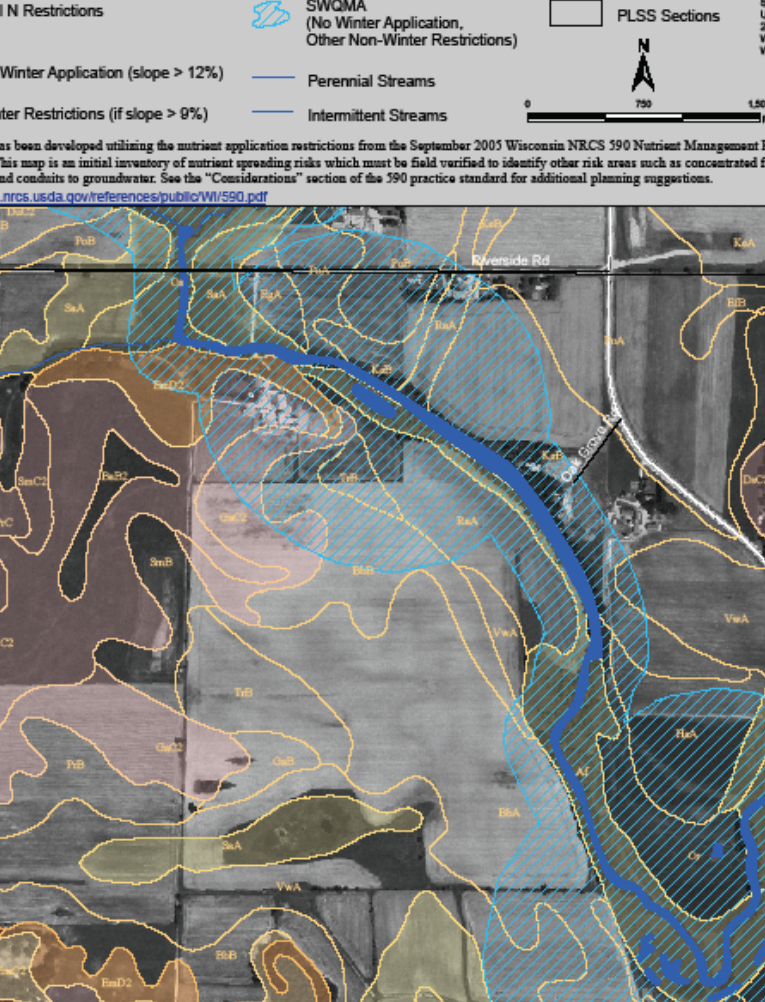
 0 750 1500 Feet

Sources: USDA-NRCS SSURGO 2005 NAIP Imagery WI-DNR 24k Hydro WI DOT Roads

This map has been developed utilizing the nutrient application restrictions from the September 2005 Wisconsin NRCS 590 Nutrient Management Practice Standard. This map is an initial inventory of nutrient spreading risks which must be field verified to identify other risk areas such as concentrated flow channels, wetlands, and conduits to groundwater. See the "Considerations" section of the 590 practice standard for additional planning suggestions.

<http://efotgl.nrcs.usda.gov/references/public/WI/590.pdf>

Aug 17, 2008



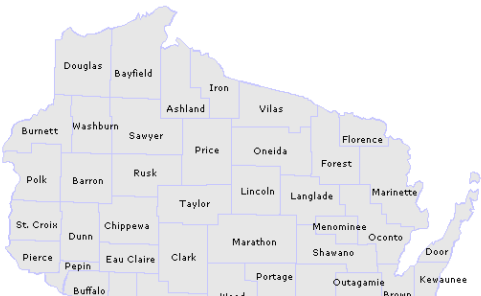
Choosing Your Map

NRCS 590
Nutrient Application Restriction Maps

****Select your preferred search method by clicking your county on the map, or by clicking the "Select by Township/Range/Section" tab.****

Click your County or Select by Township/Range/Section

Click on your county in the map below to view a county map displaying the civil townships; navigate to the township and section of interest to download a map. ([system requirements](#))



The maps provided through this website contain many of the features required for a compliant NRCS 590 nutrient management plan under ATCP 50. Several required landscape features are not included in these maps, such as wells and locally identified features that serve as direct conduits to groundwater. Field verification of all landscape features is required!

Back to...

- [Home Page \(this site\)](#)
- [DATCP Nutrient Management](#)
- [DATCP MMAS Page](#)

Information & Supporting Materials

- [Soil Descriptions by County](#)
- [Soil & Slope Restriction Coding Info](#)
- [Restrictions Guidance](#)
- [System Requirements](#)
- [Contact Information](#)

If you know the Township/Range/Section number:

Select the appropriate combination for your parcel in the boxes below and click "Download Map".

If you select a county/township/range/section combination that does not exist, an error message will appear.

- [This page](#) will help you identify sections using the PLSS system.
- [This page](#) will help you learn more about the PLSS system

County	Township Number	Range Number	Section Number
--	--	--	--
<input type="button" value="Download Map"/>			

If the selector boxes don't work in your browser, try [here](#).

NRCS 590
Nutrient Application Restriction Maps

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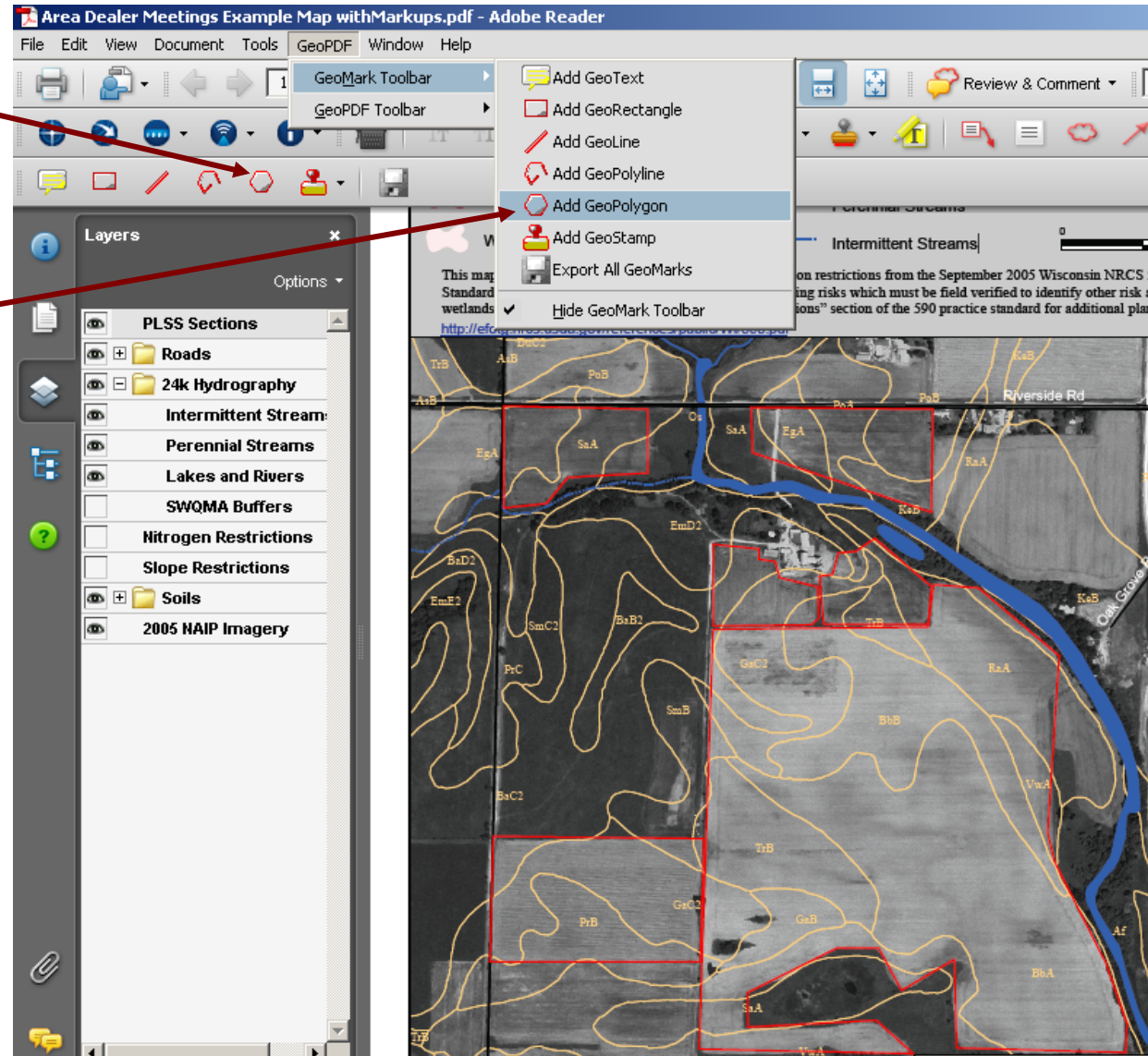
- [Soil Descriptions by County](#)
- [Restrictions Guidance](#)
- [System Requirements](#)
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How-Tos

- [Use GeoPDFs](#)
- [Identify PLSS sections](#)

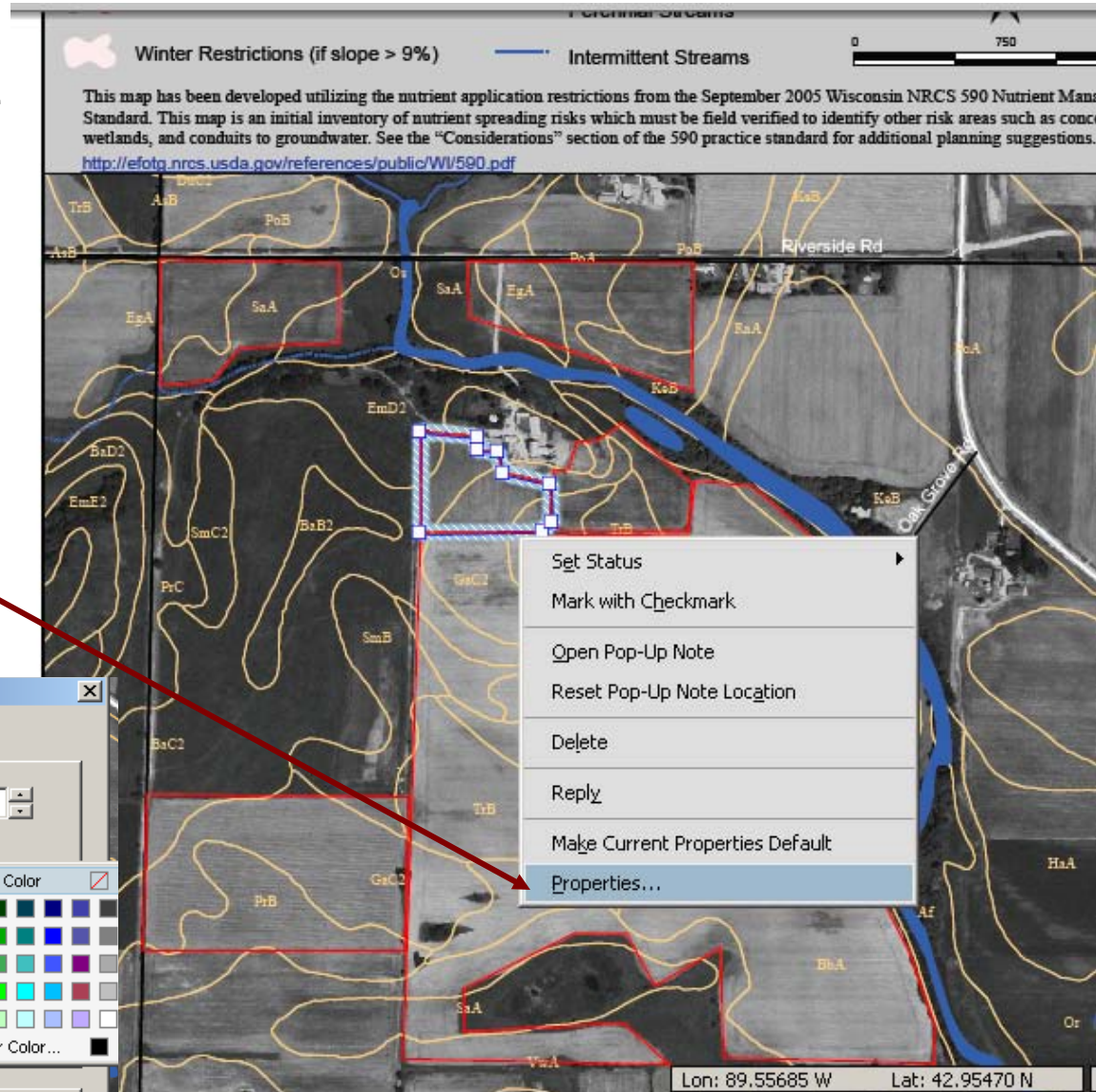
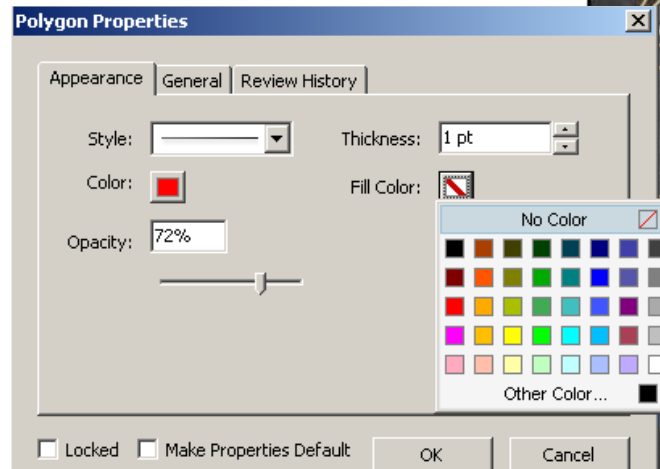
GeoToolbar

- Draw Field Boundaries
- GeoPolygon



Change GeoPolygon Color

- Hover over line
- Right click to get options
- Choose “Properties”



Field Verify

Verify all restricted areas to ensure map accuracy & identify other risk areas such as concentrated flow channels, sinkholes, karst areas, wells!!

This is an evolving project and we want your input!

Questions and problems with the maps should be directed to:

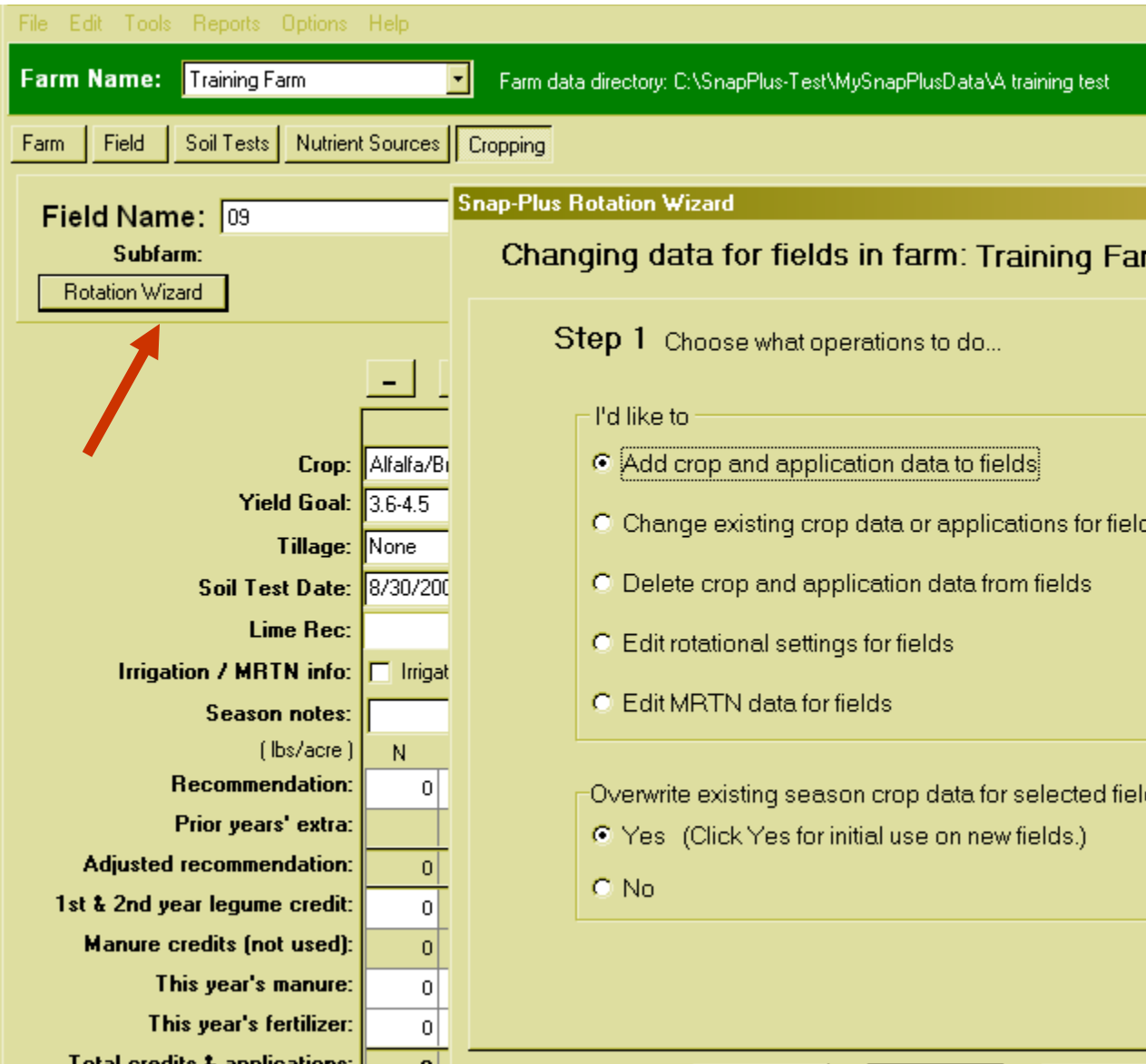
Sara Walling, DATCP

608-224-4524

Sara.walling@wisconsin.gov

Snap Plus Plan Development & Updates

Use the Rotation Wizard to track manure & fertilizer application for multiple fields & years



The screenshot shows the Snap Plus software interface. At the top, there is a menu bar with 'File', 'Edit', 'Tools', 'Reports', 'Options', and 'Help'. Below the menu bar, a green header bar displays 'Farm Name: Training Farm' and 'Farm data directory: C:\SnapPlus-Test\MySnapPlusData\A training test'. A tabbed interface below the header shows 'Farm', 'Field', 'Soil Tests', 'Nutrient Sources', and 'Cropping'. The 'Cropping' tab is active. On the left, a sidebar contains 'Field Name: 09', 'Subfarm:', and a 'Rotation Wizard' button highlighted with a red arrow. Below this, various field data fields are listed: 'Crop: Alfalfa/B...', 'Yield Goal: 3.6-4.5', 'Tillage: None', 'Soil Test Date: 8/30/200...', 'Lime Rec:', 'Irrigation / MRTN info: [] Irrigat', 'Season notes: (lbs/acre) N', 'Recommendation: 0', 'Prior years' extra:', 'Adjusted recommendation: 0', '1st & 2nd year legume credit: 0', 'Manure credits (not used): 0', 'This year's manure: 0', 'This year's fertilizer: 0', and 'Total credits & applications: 0'. The main window is titled 'Snap-Plus Rotation Wizard' and contains the text 'Changing data for fields in farm: Training Far'. It shows 'Step 1 Choose what operations to do...' with a list of options: 'I'd like to' followed by radio buttons for 'Add crop and application data to fields' (selected), 'Change existing crop data or applications for field', 'Delete crop and application data from fields', 'Edit rotational settings for fields', and 'Edit MRTN data for fields'. Below this, there is a section 'Overwrite existing season crop data for selected field' with radio buttons for 'Yes (Click Yes for initial use on new fields.)' (selected) and 'No'.

Cropping Screen

Rotation Wizard

Choose button

1. Add crops & applications
2. Change crops or applications
3. Delete crops or applications
4. Edit rotational settings
5. Edit MRTN

Snap-Plus Rotation Wizard

Changing data for fields in farm: Training Farm

Step 2 Select a rotation and the fields you'd like to add it to...

Choose a rotation to apply to each of the selected fields...

c-c-cs-oab-ab-ab-ab

Edit Rotations

Snap-Plus Rotation Edit

Rotation name

c-c-cs-oab-ab-ab-ab

New

Copy

Delete

Add crop to rotation

Delete current crop

Year	Crop	Yield Goal	Tillage	Irrigated
1	Corn grain	171-190	Spring	<input type="checkbox"/>
2	Corn grain	171-190	Fall	<input type="checkbox"/>
3	Corn silage	16-20	Fall	<input type="checkbox"/>
4	Alfalfa/Brome Seeding Spring	2.6-3.5	Fall	<input type="checkbox"/>
5	Alfalfa/Brome	3.6-4.5	None	<input type="checkbox"/>
6	Alfalfa/Brome	3.6-4.5	None	<input type="checkbox"/>
7	Alfalfa/Brome	3.6-4.5	None	<input type="checkbox"/>

Nutrient applications for crop:

Corn grain

Add application

Delete application

Nutrient class	Source Type	Season	Spread Method	Rate	Units
Manure/Biosolid	Dairy, solid	Winter	Unincorporat	20	tons/acr
My Fertilizer Sources	starter	Spring	Incorporated	50	lbs/acre

Snap-Plus Rotation Wizard

Changing data for fields in farm: Training Farm

Step 4 Pick the nutrient sources that match the nutrient types you have specified for the rotation nutrient applications.

Nutrient applications

Add application

Delete application

Crop	Rot year	Source type	Source name	Season	Spread Metho	Spread Method
ABs	1	Dairy, liquid	lagoon	Fall	Injected	12000
Prg	2	Dairy, grazing	graze	Summer	Grazing	3
Prg	3	Dairy, grazing	graze	Summer	Grazing	3

Cropping Screen

Rotation Wizard

Button 1.

Add crops & applications

1. Edit Rotations
2. Select **New** to make rotation
3. Add crop to rotation
4. Add nutrient application(s) to the crop year & check apps in Step 4

Cropping Screen Rotation Wizard Button 2.

Step 1 Choose what operations to do...

I'd like to

- ☐ Add crop and application data to fields
- ☒ Change existing crop data or applications for fields
- ☐ Delete crop and application data from fields
- ☐ Edit rotational settings for fields
- ☐ Edit MRTN data for fields

Step 2 Select the fields you'd like to change cropping data for...

Change which type of data

- ☐ Cropping data
- ☒ Applications



Start changes with year and continue changes through year

Choose which fields to include in this operation...

Unselected Selected

10	<div style="text-align: center;">> >> < <<</div>	18
11		
12		
13		
14		
15		
16		
17		
19		
20		
21		

Select

1. Cropping data
or
Applications
2. Date range
3. Fields

Step 1 Choose what operations to do...

I'd like to

- ☐ Add crop and application data to fields
- ☒ Change existing crop data or applications for fields

Cropping Screen Rotation Wizard Button 2.

Select

4. Current & previous crops

4. Delete/Add application source, season, method & rate

Step 3 Change application data where ...

Crop is Alfalfa and prior crop is Alfalfa and two year prior crop is Any

(Check for this crop sequence in the fields and years selected)

Selected years are 2008 to 2008

Change application data to ...

☐ Delete all existing applications first

Add application

Delete application

Source class	Source type	Source name	Season	Spread method	Rate
Manure/Biosolid	Dairy, liquid	Dairy Pit	Fall	Unincorporat	5000

Cropping Screen

Rotation Wizard

Button 2.

Select

1. **Cropping data**
or Applications

2. Date range

3. Fields

4. Current and
previous crops

5. Change
Crop, Yield Goal,
Tillage, Soil Test Date,
Irrigation, Legume Credit,
Season Notes

Step 1 Choose what operations to do...

I'd like to

- ☐ Add crop and application data to fields
- ☒ **Change existing crop data or applications for fields**

Step 3 Change cropping data where ...

Crop is **Alfalfa** and prior crop is **Any** and two year prior crop is **Any**

(Check for this crop sequence in the fields and years selected)

Selected years are 2008 to 2008

Change cropping data to ...

Crop **No change** Irrigation **No change** Season notes **Add to existing**

Yield goal **No change**

Tillage **No change**

Soil test date **No change**

Legume Credit Data

Only with prior legume crop

Stand density **No change**

Stand height **No change**

Applied 5,000 gals. dairy
manure 9-20-08 to dry soil.

Field: 18	Acres: 25	Crop: Alfalfa	N	P2O5	K2O
	Year: 2008	Field Over(+)/Under(-) Application (lbs/acre)	46	-10	-67

Manure / Biosolid Applications					Fertilizer Applications				
<input type="button" value="Add nutrient app"/> <input type="button" value="Delete nutrient app"/>					<input type="button" value="Add fert app"/> <input type="button" value="Delete fert app"/>				

Season	Source name	Spread method	Rate	Units
Fall	Dairy Pit	Unincorporat	5000.0	Gallons/acre

Season	Fertilizer Name	Spread method	Rate	Units
Spring	Potassium chloride	Unincorporat	250	lbs/acre
Spring	Ammonium sulfate (AMS)	Unincorporat	50	lbs/acre

	2007	2008	2009
Crop:	Alfalfa	Alfalfa	Corn grain
Yield Goal:	4.6-5.5	4.6-5.5	151-170
Tillage:	None	None	Spring Chi
Soil Test Date:	4/25/2007	4/25/2007	4/25/200
Lime Rec:	NOT MET	NOT MET	NC
Irrigation / MRTN info:	<input type="checkbox"/> Irrigated	<input type="checkbox"/> Irrigated	<input type="checkbox"/> Irrigate
Season notes:		Applied 5,000 gals.	
(lbs/acre)	N P2O5 K2O	N P2O5 K2O	N P
Recommendation:	0 35 300	0 35 300	165
Prior years' extra:	0 0 0	0 0 0	
Adjusted recommendation:	0 35 300	0 35 300	165
1st & 2nd year legume credit:	0	0	190
Manure credits (not used):	0 0 0	0 0 0	0
This year's manure:	0 0 0	35 25 80	0
This year's fertilizer:	0 0 0	11 0 153	0
Total credits & applications:	0 0 0	46 25 233	190
Over(+)/Under(-) UW Rec:	0 -35 -300	46 -10 -67	25

Cropping Screen
Rotation Wizard

Changed
Application
&
Season
notes

Summary

- Farmers writing more plans
- WLI will be a big work load in counties with zoning, better than cost sharing, less paper work
- Need to use Dominant Critical Soil to start planning to have correct soil loss and N recs

Summary

- Spread all the manure & fertilizer each year of the rotation to have an accurate P assessment
- Use the new spreading restriction maps & identify other risk areas such as concentrated flow channels, sinkholes, karst areas, wells
- Use Snap Plus and the Rotation Wizard to make planning and updates quicker