

Wisconsin Nutrient Management Workbook for SnapPlus Users 2025-2026



Before you begin

Farmer Checklist:

- ☐ Soil Test Data- 1 sample per 5 acres, analyzed at a Wisconsin Certified Soil Test Lab within the last 4 years. Ask the lab to email you the results.
- ☐ Field maps and soil sample locations.
- ☐ Lime application records from the past 4 years.
- ☐ Manure Spreader Calibration Data (page 4)
- ☐ Farm Inventory (pages 5-13)
- ☐ Manure Application Records (page 14)
- ☐ Attended a Wisconsin DATCP approved Nutrient Management Farmer Education Training Course in the last four years. Date Attended: _____
- ☐ Optional- Manure Sample Nutrient Analysis Data

Questions or need additional help?

Contact:

State funding for staff resources was provided by Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) to develop this workbook.

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**Nutrient and
Pest Management Program**
UNIVERSITY OF WISCONSIN-MADISON

Nutrient Management 101 in Wisconsin

Goals for Nutrient Management Planning

- Ensure regulation and environmental policy compliance.
- Protect environmentally sensitive areas on and near farms.
- Reduce surface and ground water contamination from:
 - Phosphorus
 - Nitrogen
 - Manure
- Match fertilizer and manure use to crop need.
- Utilize and apply nutrients to the right place, using the right source, the right rate, and right place (4Rs).
- Better manage fertilizer and other input costs.
- Support farm profitability and increase yields.
- Reduce soil erosion.

Who needs a Nutrient Management Plan?

1. Farms offered cost-share payments for government agricultural programs that include a NM plan as a condition of the agreement (manure storage, nutrient management planning, etc.).
2. Farms participating in the Farmland Preservation Program/Working Lands Initiative Program.
3. Farms required to possess a Wisconsin Pollutant Discharge Elimination System (WPDES) permit (NR 243) due to the size of their livestock operation (often referred to as CAFOs).
4. Farms regulated under a local ordinance for manure storage or livestock siting.
5. Farms issued a Notice of Discharge (NR 243) for causing significant discharge (manure).
6. EPA / USDA / WDNR – 303(d) Listed Waters (TMDL) Program.
7. Per ATCP 50, grazing systems that are stocked at greater than 1 AU/acre need to have a nutrient management plan.
8. Per WI NR 151, any fields or pastures receiving mechanical applications of fertility or manure need to have a nutrient management plan, though enforcement is limited.

Purpose of the Nutrient Management Plan

1. Guide efficient nutrient use.
2. Protect water resources and reduce environmental risks.
3. Maintain or improve soil fertility to meet crop need.
4. Document compliance.
5. Support farm profitability.
6. Identify environmental risks and over/under use of fertilizers and manure credits.

Who can write a Nutrient Management Plan?

- Certified Professional Crop Consultant by the National Alliance of Independent Crop Consultants (NAICE-CPC).
- Certified Crop Adviser (CCA) or Certified Professional Agronomist (CCAg) by the American Society of Agronomy (ASA), must be WI certified.
- Registered as a Soil Scientist by the Soil Science Society of America (SSSA).
- Farmers and Landowners who have attended a DATCP approved course like this one
 - Can only write nutrient management plan for land they own and/or operate.
 - Must attend a refresher course once every 4 years.

To use SnapPlus Version 3, you need to sign up for an account.

<https://snapplus.wisc.edu/snapplus-3/>

SnapPlus Version 3 Username:

SnapPlus Version 3 Password:



Sign in with your email and password

Email

name@host.com

Password

password

[Forgot your password?](#)

Sign in

Need an account? [Sign up](#)



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Rules, Regulations, and Recommendations of NMP

Regulations

USDA-NRCS Nutrient Management Code 590

- The 590 nutrient management standard regulates the amount of nutrients – from any source that can be applied to cropland. In addition, it contains nutrient application limitations based on land characteristics such as slope, soil type, distance to water, frozen and snow-covered ground.
- The standard provides requirements of protection for ground and surface water.
- There is a national and Wisconsin code 590 that both apply to nutrient management planning in Wisconsin.

Wisconsin Rules

Wisconsin DATCP ATCP 50

- This chapter implements Wisconsin's soil and water resource management program.

Wisconsin NR 151

- This chapter establishes runoff pollution performance standards for non-agricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices to achieve water quality standards.

Wisconsin DNR 243

- This chapter implements design standards and acceptable management practices and to establish permit requirements and the basis for issuing permits to CAFOs.

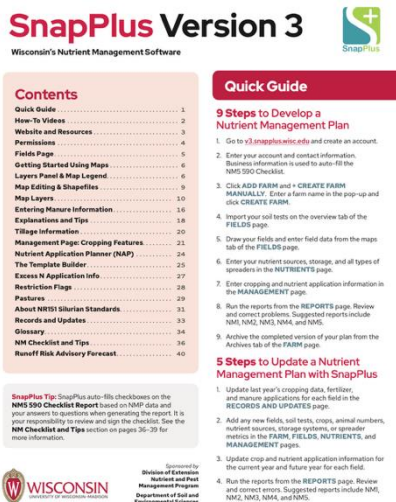
Local Ordinances and Rules

- There may be local nutrient management related rules and ordinances that apply to your farm. Check with your county land conservation office.

University of Wisconsin Fertilizer Recommendations

Nutrient application rates are from the UW-Extension publication A2809 *Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin*.

- Provides info on how to collect soil samples, interpret soil test results, and determine nutrient application rates and nutrient credits for most crops grown in Wisconsin.



Additional Resources

- Nutrient Management Fast Facts
- SnapPlus Version 3 Quick Guide



Manure Spreader Calibration

Spreader Information

Manufacturer / Manure Type / Ground Speed / PTO Speed / Spreader Settings

STEP 1. DETERMINE LOAD WEIGHT

FULL

	Left wheel	Right wheel	
Rear tractor axle			
Front spreader axle			
Rear spreader axle			full total lb
		+	=

EMPTY

	Left wheel	Right wheel	
Rear tractor axle			
Front spreader axle			
Rear spreader axle			empty total lb
		+	=

full total - empty total ÷ 2000 = tons manure/load

STEP 2. DETERMINE SPREADING RATE

Method 1: Using field records, enter the number of loads applied on a known acreage.

# of loads	# of acres	loads /acre	tons manure/load	tons / acre
	÷	=	x	=

Method 2: Estimation only. Using a measuring wheel, measure the area covered by a single load.

tons manure/load	ft wide	ft length	tons / acre estimate
	x 43,560 ft ² /acre	÷ [x]	=

STEP 3. DETERMINE MANURE NUTRIENT CREDITS

Enter the available nutrient content of manure

	lb/ton	tons / acre	lb/acre
N		x	=
P ₂ O ₅		x	=
K ₂ O		x	=

Multiply the nutrient content by the spreading rate to get the pounds per acre of each nutrient.

Estimated Available Manure Nutrient Content for crop use in the first year after spreading solid manure.

(Manure nutrient content can vary greatly, manure analysis is encouraged.)

(Manure nutrient content can vary greatly, manure analysis is encouraged.)		N	N	N	P ₂ O ₅	K ₂ O
		more than 3 days*	1 hour to 3 days	less than 1 hour		
Animal		-----lb/ton-----				
(>20% dry matter)	Dairy	2	3	3	3	6
(11-20% dry matter)	Dairy	2	2	3	3	5
	Beef	3	4	5	6	10
	Swine	7	9	12	10	8
	Chicken	24	27	29	35	26

* Time to incorporation

Farm Inventory

Farm Narrative: Briefly describe the size, scope, and production methods used on your farm.

Do you graze animals. ☐ Yes ☐ No

If yes, is your stocking rate more than 1 animal per acre during the grazing season

☐ Yes ☐ No ☐ Don't know and need help

determining this.

If yes, are there any mechanical nutrient applications made to your grazing land?

☐ Yes ☐ No

List manure storage (and its respective capacity), as well as spreaders and rates, if calibrated.

Be prepared to identify fields that are: irrigated, tile drained, managed on the contour, contour strip cropped, have in-field and/or edge of field filter buffers areas. SnapPlus will ask for this info.

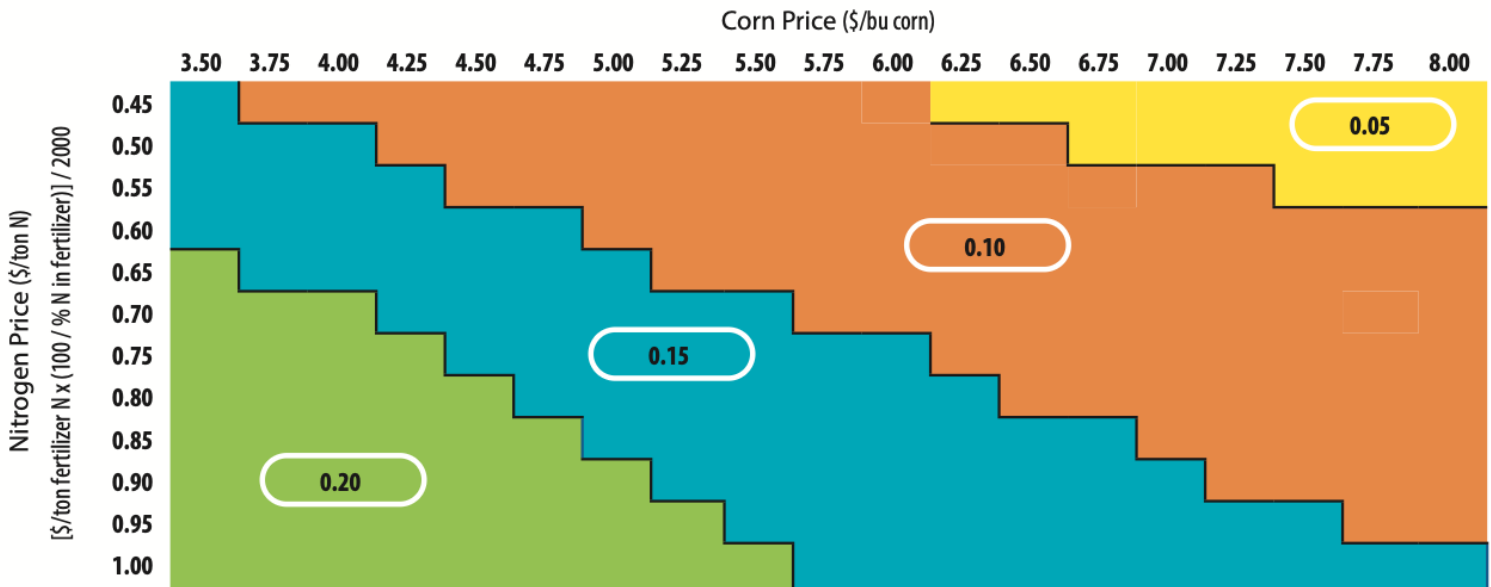
MRTN Corn and Wheat Nitrogen Price to Corn Price Ratio Calculations. To set your MRTN price ratio in SnapPlus, complete the calculation below. Next, find where your corn price and nitrogen price per pound intersect in the price ratio table.

To calculate your nitrogen rate you will need to know the price per pound of nitrogen fertilizer.

\$_____/ton fertilizer N x (100/_____% N in Fertilizer) / 2000= \$_____ per lb. of nitrogen

Next find your price ratio in the table below.

N:CorN Price Ratio Table



Circle your MRTN price ratio: 0.20 0.15 0.10 0.05

Farm Inventory

List the number of animals you have (by size). If manure is collected both as a solid and liquid, note the % in the respective boxes. If animals are pastured during the grazing season, list the % of their manure that is collected for mechanical spreading.

# of animals	Animal type	Size (pounds)	Milk per day (pounds)	Manure		% manure collected
				Solid	Liquid	
Example: 100	Dairy Heifer	1000	0	X		100

Beef		Poultry	Horse	Other	Swine
Dairy	Beef Stocker/Feeder 400-800 lb.	Poultry Layers	Horse less than 50	Veal	Swine Nursery Pig
	Beef Finish- pasture or confinement	Poultry Broilers	Horse 500-1000 lb.	Poultry Ducks	Swine Grow-
	Beef Cow 1000, 1200 lb.	Poultry Turkeys	Horse 1000-1400 lb.	Goat	Finishing Pig
	Beef Bulls 1400 lb.	Poultry Ducks	Horse over 1400 lb.	Lamb	Swine Gestating Sow
				Sheep	Swine Lactating Sow
	Dairy Youngstock 400-800lb				Swine Boar
	Dairy Heifer 1000 lb.				
	Dairy Dry Cows 1000, 1200, 1400, 1700 lb.				
	Dairy Lactating Cows 1000, 1200, 1400 lb., milk production: 50, 75, 100, 125 lb./day				

Farm Inventory

What fertilizers do you currently use? List custom fertilizers on the next page.

Check if Used	Fertilizer	%N	%P ₂ O ₅	%K ₂ O	%S	Liquid?
	28% UAN	28	0	0	0	Yes
	32% UAN	32	0	0	0	Yes
	Ammonium nitrate	34	0	0	0	
	Ammonium polyphosphate	15	62	0	0	
	Ammonium polyphosphate liquid	10	34	0	0	Yes
	Ammonium sulfate (AMS)	21	0	0	24	
	Ammonium thiosulfate (ATS)	12	0	0	26	Yes
	Anhydrous ammonia	82	0	0	0	
	Calcium nitrate (CN)	15	0	0	0	
	Calcium sulfate (Gypsum)	0	0	0	14	
	Diammonium phosphate (DAP)	18	46	0	0	
	Liquid 4-10-10	4	10	10	0	Yes
	Liquid 6-24-6	6	24	6	0	Yes
	Liquid 7-21-7	7	21	7	0	Yes
	Liquid 9-18-9	9	18	9	0	Yes
	Monoammonium phosphate (MAP)	11	52	0	0	
	Potash (Potassium chloride)	0	0	61	0	
	Potassium nitrate	13	0	44	0	
	Potassium sulfate	0	0	50	18	
	Potassium-magnesium sulfate	0	0	22	22	
	Tripple superphosphate (TSP)	0	46	0	0	
	Urea	46	0	0	0	
	Urea- poly coated	44	0	0	0	

Farm Inventory

List any custom fertilizers here.

Fertilizer	%N	%P2O5	%K2O	%S	Liquid?
<i>Example: Starter</i>	5	5	5	2	Yes

What are your fertilizer and manure applications by crop?

[illegible]

Farm Inventory

Check if this crop is grown on your farm	Crop	Average Crop Yield
	CRP	
	Cucumber	
	Diversified vegetables - 1 crop in yr	
	Diversified vegetables - 2 crops in yr	
	Dry Beans	
	Flax	
	Fruit orchard	
	Ginseng established	
	Ginseng harvest year	
	Ginseng planting	
	Grass hay	
	Grass hay late seed	
	Grass hay seeding	
	Grasslands permanent not harvested	
	Hemp CBD	
	Hemp fiber	
	Hemp grain	
	Horseradish	
	Idle land	
	Lima bean	
	Melon	
	Millet	
	Mint established	
	Mint seeding	
	Oat-Pea forage	
	Oat-Pea forage with Alfalfa seeding	
	Oat-Pea forage with Alfalfa-Grass seeding	
	Oat-Pea forage with Red Clover seeding	
	Oatlage with Alfalfa seeding	
	Oatlage with Alfalfa-Grass Seeding	
	Oatlage with Red Clover seeding	
	Oats	
	Oats grain and straw	
	Oats to underseeded legume Cover crop	
	Onion	
	Pasture - dry lot or exercise area	
	Pasture grass	
	Pasture grass - hay cut	
	Pasture grass seeding	
	Pasture grass seeding - hay cut	
	Pasture grass-legume	
	Pasture grass-legume - hay cut	
	Pasture grass-legume seeding	
	Pasture grass-legume seeding - hay cut	
	Pasture legume more than 30%	

Farm Inventory

Check if this crop is grown on your farm	Crop	Average Crop Yield
	Pasture legume more than 30% - hay cut	
	Pasture legume more than 30% seeding	
	Pasture legume more than 30% seeding - hay cut	
	Pasture unimproved	
	Pasture unimproved - hay cut	
	Pea field	
	Peas	
	Pepper	
	Potato early harvest	
	Potato late harvest	
	Prevent plant	
	Prevent plant - no spring tillage	
	Pumpkin	
	Raspberry	
	Raspberry establishment	
	Red Clover	
	Red Clover fall killed	
	Red Clover grassy - yr 3 on	
	Red Clover seeding	
	Reed canary grass	
	Rye winter grain	
	Rye winter grain and straw	
	Rye winter grain to interseeded red clover Cover crop	
	Rye winter silage	
	Ryegrass annual	
	Small grain and legume silage	
	Small grain and legume silage with Alfalfa seeding	
	Small grain nurse crop to pasture grass seeding	
	Small grain nurse crop to pasture grass seeding - hay cut	
	Small grain nurse crop to pasture grass-legume seeding	
	Small grain nurse crop to pasture grass-legume seeding - hay cut	
	Small grain nurse crop to pasture legume more than 30% seeding	
	Small grain nurse crop to pasture legume more than 30% seeding - hay cut	
	Small grain silage annual	
	Small grain silage with Alfalfa seeding	
	Snap Beans	
	Sod established	
	Sod harvest year	
	Sod seeding	
	Sorghum forage	
	Sorghum grain	
	Sorghum-sudan forage	

Farm Inventory

Check if this crop is grown on your farm	Crop	Average Crop Yield
	Soybeans: forage	
	Soybeans: 7-10 inch row	
	Soybeans: 15-20 inch row	
	Soybeans 30-36 inch row	
	Soybeans grain and straw 15-20 inch row	
	Soybeans grain and straw 30-36 inch row	
	Soybeans grain and straw 7-10 inch row	
	Soybeans to aerial seeded rye Cover crop	
	Spinach	
	Squash	
	Strawberry	
	Strawberry planting	
	Sunflower	
	Sweet Corn	
	Switchgrass	
	Switchgrass seeding	
	Tobacco	
	Tomato	
	Trefoil - birdsfoot	
	Trefoil - birdsfoot seeding	
	Triticale winter grain	
	Triticale winter grain and straw	
	Triticale winter silage	
	Wheat spring grain	
	Wheat spring grain and straw	
	Wheat spring grain to interseeded legume Cover crop	
	Wheat winter grain	
	Wheat winter grain and straw	
	Wheat winter grain to interseeded red clover Cover crop	
	Wheat winter silage	

Follow this example to complete the next two pages on crop rotation.

A SnapPlus crop year begins immediately after crop harvest and ends with crop harvest. Example: Once soybean harvest is complete in the fall, any tillage done and fertilizer and/or manure applied is allocated to next years corn crop.

SnapPlus Version 3 will also require you to identify crop planting season. Options include Established (perennial crops), April-May, June, Mid-Summer, Late Summer-Fall allowing for cover crops, late season forages, etc. to be correctly identified in the crop rotation.

Include application rate and timing for fertilizer and manure applications.

More info? Pages 18-23 in the SnapPlus Version 3 guide.

	Field(s)	1,5,7,8,9	Home, south farm	Buckey's
Year 1 Rotation	Crop	Alfalfa seeding	corn	Corn silage
	Tillage	Field cultivation	No-till	Fall chisel plow, spring cultivation
	Manure	10 tons beef manure	10,000 spring gallons dairy manure	10,000 gallons spring dairy manure
	Fertilizer	100 lb. potash	Corn program	Starter fertilizer
Year 2 Rotation	Crop	alfalfa	Soybean	Corn silage
	Tillage	none	Fall chisel plow, spring cultivation	Fall chisel plow, spring cultivation
	Manure	none	none	10,000 gallons spring dairy manure
	Fertilizer	250 lb. potash	soybean program	Starter fertilizer
Year 3 Rotation	Crop	alfalfa	corn	Corn silage
	Tillage	none	No-till	Fall chisel plow, spring cultivation
	Manure	none	15,000 gallons dairy manure	10,000 gallons spring dairy manure
	Fertilizer	250 lb. potash	Corn program	Starter fertilizer
Year 4 Rotation	Crop	alfalfa	Soybean	Corn silage
	Tillage	none	Fall chisel plow, spring cultivation	Fall chisel plow, spring cultivation
	Manure	none	none	10,000 gallons spring dairy manure
	Fertilizer	250 lb. potash	soybean program	Starter fertilizer

Field Inventory

List the field or groups of fields and what happens on them during each year in the rotation. Note if any fields are farmed on n-contour, have contour buffer strips, are irrigated or tile drained, and/or have filter strips. Use multiple sheets if needed.

Crop Rotation	Field(s)				
Year 1 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 2 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 3 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 4 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				

Field Inventory

List the field or groups of fields and what happens on them during each year in the rotation. Note if any fields are farmed on n-contour, have contour buffer strips, are irrigated or tile drained, and/or have filter strips. Use multiple sheets if needed.

Crop Rotation	Fields(s)				
Year 5 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 6 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 7 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				
Year 8 Rotation	Crop				
	Tillage				
	Manure				
	Fertilizer				

Use multiple sheets if needed.

Use multiple sheets if needed.

[illegible]

- Check the Manure Runoff Risk Advisory Forecast prior to making any manure applications.
- When the Manure is Red Do Not Spread Manure



<https://runoffriskadvisory.wi.gov>