

SOIL PLANTTISSUE FORAGE MANURE LIME RESEARCHERS CONTACT

FEES/BROCHURE PAYMENT

Contact & location:

4702 University Avenue Madison, WI 53705 (608) 262-4364 soil-lab@mailplus.wisc.edu

Soil > Field Soil Sampling

ANALYSIS

Routine Analysis: \$8 per sample. Includes pH, lime requirement, organic matter, phosphorus, potassium, and nutrient recommendations.

Optional (\$ per sample): Calcium + Magnesium (\$3) | Boron (\$3) | Zinc (\$3) | Manganese (\$3) | Sulfur-Sulfate (\$3)

Volume discounts are also available.

Remember proper sampling!





Soil Sample Infomation Sheet for Field, Vegetable and Fruit Crops

For Lab	Use Only:		PI	eas	se check how you	would	like to	receive y	our resu	lts:				Method	of Paym	ent:
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		ated	P	Samp				4-YEAR CRO	PROTATION	Prev	ious Legum	e Crop	Ma	nure Applied to	Field Since Las	t Crop
FIELD ID	SAMPLE NO(S)	Check if Irrigated	Check if tiled	Check if 0-2" pH Samples	SOIL NAME (required)	Acres in Field	Slope %	Sequence to be Grown (crop code)	Yield Goal	Legume Crop (crop code)	Legume Forage % stand (circle)	Check if more than 8" regrowth in fall	Manure Code (See below)	Application Rate T/a gal/a	Time to Incorp (Circle one)	Consec. Years of Application (circle)
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Calciu	m/Magne	cii		LIS	t field or sample n) Zinc				-	3 Beef 4 Swin		13 Veal of 14 Beef	alī	
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	gume forage					growing :	specialty	or vegetable	crops B, Z	n, and Mi	n	9 Horse	, #35	18 Poultr	0(5) (
growing sn	nall grain or so	ybea	an (v	vith :	soil pH >7.0) Mn	acid or sa	andy soil	with high am	ounts of app	lied K Ca	ı/Mg	10 Goa	<u> </u>	19 Goat		1/22

CHECK how you wish to receive your results. PRINT YOUR NAME - Please Print clearly

Fill in the county from which the sample(s) were taken. Please fill out separate forms for each county.

Fill in your address and the e-mail address if you would like the results e-mailed to you.

FIELD ID and SAMPLE NUMBER(S) - Record the field an dsample identification for each field on the same line.

Please number samples consecutively.

SOIL NAME [REQUIRED]

Write the **full** soil name (**NOT** the abbreviation) from an FSA farm plan or county soil survey map. Example: Fayette silt loam, write "Fayette". If the field has more than one soil type, use the most predominant soil found in the field. A more precise soil test recommendation can be given if the soil name is included.

4-YEAR CROP ROTATION

Indicate the intended crops to be grown for the next four years (one crop code per year).

Crop	Crop Name	Yield	Crop	Crop Name	Yield	Crop	C N	Yield
Code	Crop Name	Unit	Code	Crop Name	Unit	Code	Crop Name	Unit
1	Alfalfa, established	(ton)	66	CRP, alfalfa	(n/a)	39	Potato	(cwt)
2	Alfalfa, seeding	(ton)	68	CRP, grass	(n/a)	40	Pumpkin	(ton)
60	Apple, establishment	(all)	67	CRP, red clover	(n/a)	64	Raspberry, estab.	(all)
3	Asparagus	(lb)	20	Cucumber	(ton)	76	Rye, grain	(bu)
74	Barley, grain	(bu)	21	Flax	(bu)	43	Rye, grain + straw	(bu)
4	Barley, grain + straw	(bu)	22	Ginseng	(lb)	82	Sm grain & legume silag	(ton)
5	Bean, dry (kidney, navy)	(cwt)	79	Grape, establishment	(all)	30	Sm grain/leg slg, w/alf sd	(ton)
6	Bean, lima	(lb)	84	Grass, hay	(ton)	81	Small grain silage	(ton)
44	Bean, snap	(ton)	41	Grass, reed canarygrass	(ton)	29	Sm grain silage, w/alf sdg	(ton)
7	Beet, table	(ton)	45	Grass, sod for turf, est.	(all)	46	Sorghum, grain	(bu)
61	Blueberry, estab.	(all)	85	Grass, switchgrass	(ton)	47	Sorghum-sudan, forage	(ton)
8	Brassica, forage	(ton)	86	Нор	(lb)	48	Soybean, grain	(bu)
9	Broccoli	(ton)	23	Lettuce	(ton)	77	Soybean, grain + straw	(bu)
10	Brussels sprouts	(ton)	24	Lupine	(bu)	49	Spinach	(ton)
11	Buckwheat	(lb)	25	Melon	(ton)	50	Squash	(ton)
12	Cabbage	(ton)	26	Millet	(bu)	65	Strawberry, estab.	(all)
13	Canola	(bu)	27	Mint, oil	(lb)	51	Sunflower	(lb)
14	Carrot	(ton)	75	Oats, grain	(bu)	52	Tobacco	(lb)
15	Cauliflower	(ton)	28	Oats, grain + straw	(bu)	53	Tomato	(ton)
16	Celery	(ton)	31	Onion	(cwt)	54	Trefoil, birdsfoot	(ton)
62	Cherry, establishment	(all)	34	Past.,legume(<30%)-grass	(ton)	55	Triticale, grain	(lb)
42	Clover, red	(ton)	83	Past.,legume(>30%)-grass	(ton)	80	Triticale, grain + straw	(lb)
17	Corn, grain	(bu)	33	Pasture, grass	(ton)	56	Truck crops	(all)
38	Corn, popcorn	(bu)	32	Pasture, unimproved	(ton)	57	Vetch, crown/hairy	(ton)
18	Corn, silage	(ton)	35	Pea, canning	(lb)	78	Wheat, grain	(bu)
19	Corn, sweet	(ton)	36	Pea, chick/field/cow	(ton)	58	Wheat, grain + straw	(bu)
63	Cranberry, estab.	(all)	37	Pepper	(ton)		0.00179990	M401 (250)

FERTILIZER CREDIT INFORMATION: Legume-sod plowdown or manure application may reduce nutrient need.

Previous Legume Crop: Enter the crop code for the previous legume crop grown on the field. For all forage crops that were plowed down, indicate the % legume remaining in stand and check if there was more than 8 inches of regrowth in the fall before the stand is killed.

Manure Applied to Field Since Last Crop: If manure was applied to the field since harvesting the last crop, choose manure code from Manure Code List on front. Specify the approximate rate of application in T/a for solid or 1000 gal/a for liquid manure, time to incorporation, and the number of consecutive years manure has been applied to this field.

SPECIAL SOIL TESTS: Special tests may be run on individual samples, or all the samples from the same field may be combined at the lab for a single field analysis. If the special test(s) is requested on a field basis only, enter the field ID. If the special test(s) is requested for each sample, enter the field ID and sample number.

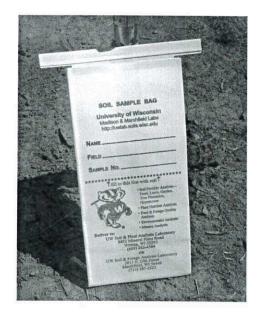
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Sampling soils for testing

John B. Peters and Carrie A.M. Laboski

soil test is the only practical way of determining whether lime and fertilizer are needed for a specific crop. However, if a soil sample does not represent the general soil conditions of the field, the recommendations based on the sample may be misleading. An acre of soil to a 6-inch depth weighs about 1,000 tons, yet less than 1 ounce of soil is used for each test in the laboratory. Therefore, it is very important that the soil sample be representative of the entire field.

Before collecting soil samples, you should determine the overall approach of the nutrient management program. This will affect the number of samples needed and method by which samples will be taken. Specifically, will nutrient and lime applications be made at a single uniform rate for the whole field being tested or will applications be made at variable rates to field areas that have been identified as having different soil test levels?



Goals of a soil sampling program

When sampling soils for testing and obtaining fertilizer and lime recommendations, the most common objectives are to:

- Obtain samples that accurately represent the field from which they were taken.
- 2. Estimate the amount of nutrients that should be applied to provide the greatest economic return to the grower.
- Estimate the variation that exists within the field and how the nutrients are distributed spatially.
- 4. Monitor the changes in nutrient status of the field over time.

Selecting a soil sampling strategy

Before selecting a sampling strategy, consider analytical costs, time and equipment available, field fertilization history, and the likelihood of a response to applied nutrients.

Sampling fields for a single whole field (uniform) recommendation

With conventional sampling, you will receive a single set of nutrient and lime application guidelines that are based on sample averages. The sampling guidelines in Table 1 are based on when a field was last tested (more or less than 4

Table 1. Recommended sample intensity for uniform fields.

Field characteristics	Field size (acres)	Suggested number of samples
Fields tested more than 4 years ago OR fields testing in the responsive range	All fields	1 sample/5 acres
	5–10	2
	11–25	3
Nonreconneive fields tested within next August	26–40	4
Nonresponsive fields tested within past 4 years	41–60	5
•	61–80	6
	81–100	7

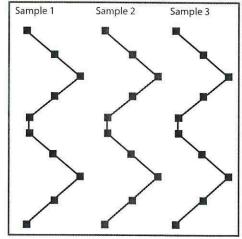
^a Collect a minimum of 10 cores per sample.

years ago) and whether the field was responsive or nonresponsive the last time it was tested. The field is considered to be in the responsive range if either soil test phosphorus (P) or potassium (K) levels are in the high (H) category or lower. A nonresponsive field is one where both soil test P and K levels are in the very high (VH) or excessively high (EH) categories.

Each sample should be made up of a minimum of 10 cores to ensure accurate representation of the nutrient needs of the field. Research has shown that taking 10 to 20 cores provides a more representative sample of the area than when samples are made up of fewer cores. When gathering soil cores to make a composite sample, use a W-shaped sampling pattern (as shown in Figure 1) over the whole area the sample represents. Be sure to thoroughly mix the cores before placing approximately 2 cups in the sample bag.

For best results, submit multiple samples for all fields. When at least three samples are provided for a field, samples that are significantly higher than the field average may be discarded and an adjusted average calculated. Using an adjusted

Figure 1. Recommended W-shaped sampling pattern for a 15-acre field. Each sample should be composed of at least 10 cores.



average helps ensure that no part of the field is under-fertilized.

Where only one or two samples are taken in a field, no sample will be discarded, whereas one sample can be discarded if three or four samples are taken, and up to two samples may be discarded from fields having five or more samples. The criteria that determine if soil samples should be omitted from the field average include:

- If the average soil test P for a field is 35 parts per million (ppm) or less, samples that exceed the field average by more than 5 ppm may be removed and the field average recalculated.
- If the field average is greater than 35 ppm P, no samples will be discarded.
- If the average soil test K for a field is 175 ppm or less, samples that exceed the field average by more than 20 ppm may be discarded and the field average recalculated.
- If the field average is greater than 175 ppm K, no samples will be discarded.

It is not appropriate to vary nutrient application rates across sampling areas when using the whole field (uniform) soil sampling scheme.

Sampling fields for site-specific management

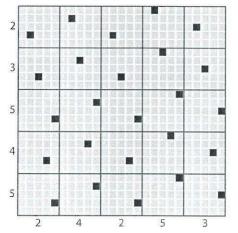
Site-specific management requires a distinct picture of the magnitude and location of soil test variability. Sampling soils for site-specific management usually involves taking many more composite samples than sampling for a single recommendation. A global positioning system (GPS) is used to record the geographical coordinates of each sample. This information is used to generate an application map by using various mathematical techniques to interpolate the nutrient application rate between sampling points. Using variable rate application technology, these fields can be managed more intensively than the conventional approach of one fertilizer and lime rate per field. A careful evaluation of the economics of this intensive

of a sampling system needs to be done before proceeding.

When using a site-specific approach to soil sampling, sample handling and testing are similar to the traditional system, but recommendations may vary from one part of the field to another, and these areas must be managed separately to realize the potential advantages of intensive soil sampling.

Several sampling strategies can be used to guide variable-rate fertilizer and lime applications. Grid sampling uses a systematic approach that divides the field into squares of approximately equal size (grid cells). The sampling technique used is known as grid-point sampling. A grid-point sample consists of at least 10 cores collected from a small area (10-foot radius) around a geo-referenced point. When using a grid sampling approach, Wisconsin research recommends a sampling strategy based on an unaligned systematic grid (Figure 2). Sampling points should be unaligned because sampling in a uniform grid arrangement may lead to biased results if aligned with row patterns. Fields that have soil test P and K levels in the nonresponsive categories should be grid-point sampled on a 300-foot grid. This is equivalent to one soil sample for every 2 to 2.5 acres. Where there is no information about the P or K status of the field or where previous tests were in the responsive range, a 200-foot grid size should be used. This is equivalent to approximately one soil sample per acre. Wisconsin research indicates these small grid cell sizes are needed to adequately characterize the variability in soil fertility. A larger grid cell size (such as 5 acres) may not adequately describe the field variability and may

Figure 2. An example of an unaligned grid pattern for grid sampling fields.



limit the potential economic benefits of site-specific management.

Other considerations in selecting a sampling strategy

Select the sampling strategy appropriate for the field size and topography.

Contour strips. On contour strip fields, sample each strip separately if it is approximately 5 acres or more in size, following the sampling intensity guidelines provided in Table 1. Cores from two or three small strips that have identical cropping and management histories may be combined following these same recommended sampling intensity guidelines. Using a grid-point sampling approach on contour strips or small fields is not appropriate, regardless of grid cell size. This is because a grid technique may result in many soil samples being collected from one contour strip but none in other strips; additionally, grid-point samples may be on the edge of the strips and not adequately represent the strip.

Five-acre grid-point sampling. The 5-acre grid point sampling system for whole field management recommendations has recently become popular with soil samplers because it takes less time to collect cores, compared to the traditional W pattern. Another advantage of this approach is its ability to track changes in soil test levels over time, because soil samples are collected from the same geo-referenced point each time the field is sampled. Five-acre grid-point sampling can likely be used in some situations and not in others. For example, in fields that were soil sampled within the past 4 years and tested in the nonresponsive range, averaging the soil test results from 5-acre grid-point sampling is reasonable. This is because there previously had not been a fertilizer recommendation on these fields and some variability at excessively high soil test levels does not change the fact that no fertilizer was recommended. For fields that were sampled more than 4 years ago or where past soil test results were in the responsive range, 5-acre grid-point sampling may not be the best choice of sampling techniques. This is because 5-acre grid-point sampling may not adequately represent the variability within a field, and a comparatively small change in soil test level of 5 to 10 ppm could mean a large change in the amount of nutrients recommended. For

small fields and contour strips, taking a few 5-acre grid-point samples in each field and averaging them likely does not provide a representative sample of the field. Additionally, the total number of samples may be so few that none of them can be eliminated from the field average if it appears one is an outlier.

Smart (zone or directed) sampling. Another approach gaining support among researchers is smart sampling, also known as directed or management zone sampling. This approach uses information that has been collected using other precision agricultural technologies such as yield maps, aerial photographs of bare soil or crop canopy, or soil electrical conductivity measurements. Directed sampling evaluates the spatial distribution of several factors that may influence nutrient availability and crop productivity to help define sampling areas with similar characteristics. With previous comments in mind, either the W pattern or grid-point method can be used to collect samples within management zones. If the results of grid or management zone sampling do not warrant variable-rate application (for example, relatively little between-sample variation), average them to determine the appropriate single-rate treatment.

Procedures for taking soil samples

When to take soil samples

Take soil samples at any convenient time. Studies examining the effect of sampling time on soil test results suggest that test values for pH and phosphorus (P) are typically slightly higher in early spring samples than in fall samples. The effect of time of sampling on soil test potassium (K) results is dependent upon clay mineralogy and soil test level. Soil test K results may be higher in spring compared to fall on lower testing soils, but on higher testing soils, soil test K may be lower in spring compared to fall. To receive your recommendations early enough to enable you to apply the lime and fertilizer needed, it may be best to sample in the fall. Another benefit of fall testing is that fertilizer prices are more likely to be discounted then. Hayfields can be sampled after any cutting. Regardless of when you sample, it is best to be consistent from one year to the next.

Winter sampling, or sampling when the soil is frozen, is permissible only when it is possible to take a uniform boring or core of soil to the appropriate depth. This may require using a portable power boring tool. Using a pick or spade to remove a few chunks of frozen soil from the surface will give inaccurate results.

How to take soil samples

Certain government agency programs require nutrient management plans prepared according to the current USDA-NRCS nutrient management standard (590). Soil sampling and testing procedures and nutrient application rates based on these soil tests must be consistent with the provisions of the 590 standard to be eligible for many cost-sharing programs. These provisions currently include: following the soil sampling techniques outlined above, soil testing by a Wisconsin certified laboratory, and use of nutrient application rates consistent with the guidelines contained in the University of Wisconsin-Extension publication Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin (A2809).

When ready to sample, use a sampling probe or auger. You can obtain these tools on loan from most county Extension offices (counties.uwex.edu) or fertilizer dealers. Avoid sampling the following areas:

- Dead furrows or back furrows
- · Lime, sludge, or manure piles
- Animal droppings
- Near fences or roads
- Rows where fertilizer has been banded
- Eroded knolls
- Low spots
- Where stalks or large bales were stacked
- Headlands

In addition, avoid sampling areas that vary widely from the rest of the field in color, fertility, slope, texture (sandy, clayey, etc.), drainage, or productivity. If the distinctive area is large enough to receive lime or fertilizer treatments different from the rest of the field, sample it separately.

These steps will help you take full advantage of the Wisconsin nutrient application guidelines and must be followed to be consistent with the 590 standard.

- 1. If manure or crop residues are on the surface, push them aside to keep from including them in the soil sample.
- 2. Insert the probe or auger into the soil to plow depth or at least 6 inches. The sampling depth should be consistent. To aid year-to-year comparisons, it is important to take repeated samplings from the same field to exactly the same depth.
- 3. Take at least 10 soil cores or borings for each composite sample and, preferably, at least two composite samples for every field. For nonresponsive fields greater than 5 acres in size, obtain, at a minimum, the number of samples specified in Table 1. For responsive fields, as well as all fields that have not been sampled in the past 4 years, take one composite sample for every 5 acres.
- 4. Thoroughly mix the sample, then place about 2 cups of soil in a sample bag.
- Identify the bag with your name, field identification, and sample number.
- Record the field and sample location on an aerial photo or sketch of the farm and retain for your reference. Record the GPS coordinates, if available.
- Fill out the soil information sheet. A completely and carefully filled out information sheet will provide the most accurate nutrient recommendations.

Always include a soil test information/ sample submission form when submitting soil samples to a laboratory for testing. Provide the soil name and field history whenever possible for more accurate recommendations. Information about legume crops previously grown on the soil and manure application history is essential for proper nutrient crediting from these sources. Include soil names and/or map unit symbols from county soil survey reports, web soil survey (http://websoilsurvey.nrcs.usda.gov/app/), or individual farm conservation plans. To obtain this information, contact an Extension educator, NRCS district conservationist, or the County Land Conservation Department (LCD).

How often to sample

Most fields should be retested at least every 4 years to monitor soil fertility levels of immobile nutrients and pH to prevent nutrient deficiencies and avoid excess nutrient accumulation. Crop nutrient removals over a 4-year period in most cropping systems will not change soil test levels enough to affect recommended nutrient application rates. Exceptions include sands and loamy sands, which should be tested every 2 years. Also, depending on the initial soil test P and K levels, cropping systems such as high-yielding corn silage or alfalfa may require more frequent testing to adequately monitor changes in soil test levels.

What to do with soil samples

To receive nutrient application rate guidelines consistent with those found in A2809, submit your soil samples and a completed soil information/sample submission form to a Wisconsin Department of Agriculture, Trade, and Consumer Protection (WDATCP) certified laboratory. WDATCP maintains a list of certified soil testing labs at: https:// datcp.wi.gov/Documents/ NMSoilManureLabs.pdf. Contact labs directly to obtain additional details about the submission process. To become certified, laboratories must use the soil testing methods and nutrient application rate guidelines specified by WDATCP and must also meet quality control standards through periodic analysis of quality control soil samples.

Tillage system considerations when sampling

Moldboard plowing. Sample to the depth of tillage.

Chisel plowing and offset disking. Take soil samples to 34 of the tillage depth. When possible, take soil samples before spring or fall tillage. Sampling before tillage lets you determine the sampling depth more accurately and avoid fertilizer bands applied for the previous crop.

Till-plant and ridge tillage. Sample ridges to a 6-inch depth and furrows (between rows) to a depth of 4 inches. Combine equal numbers of soil cores from ridges and furrows to make up the composite sample.

No-till. Fields that have not been tilled for 5 or more years may develop an acid layer on the surface from the use of nitrogen fertilizer. This acid layer could reduce the effectiveness of triazine herbicides. Unincorporated phosphorus (P) and potassium (K) are also likely to build up in the surface soil. If an acid layer is suspected, take a separate sample to a depth of only 2 inches. When sending the soil to the lab, indicate that the sampling depth was only 2 inches. This sample will be tested for pH only, unless P and K are specifically requested. For fertilizer recommendations, take a separate sample to a depth of 6 to 7 inches. Fertilizer recommendations require this sampling depth because fertilizer calibration studies are based on plow-depth sampling. Sample between rows to avoid fertilizer bands.





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a UW farm soil report

Robert Florence

Lab Director

Soil and Forage Analysis Lab Marshfield, W

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			Cropping Sequence	Corn, grain	Soybean, grain	ifalfa, seeding	falfa, established	The time required for this rotation to reach pH 6.3 is 12 T/a of 60-69 time or 9 T/a of 80-89 time.	
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Corn, Forage legumes, Leguminous vegetables, Green manures ¹	125	110-140	110	100-115	00-115 100	95-110	95	85-100
Soybean, Small grains*	110	90-125	85	70-95	70	60-80	09	50.70

These are to a team by process or that containment with the and any or the stage of process are contained region to writing is not the KH-Him.
These rates as of a team where I operative features and a team to the season the season to the season the season to the season to the season to the season to the seaso

Guidelines for choosing an appropriate N application rate for corn (grain)

1) If there is more than 50%, eackba cover at panting, use the upper and of the range.

So mail grains grown on mardin and first heatured oblight, the motion when the profitable range is the most appropriate applied in this situation (3) If 100% of the N will come form that have been top end of the anger in addition, up to 20 ib N air is start fartifizer may be applied in this situation (3) If 100% of the N will come form the contracts, use the top end of the anger in addition, up to 20 ib N air is start fartification and fine textured solis with less than 2%, or gains matter, use the high end of the range.

The range is used the high end of the range.

The range of the anger is profit to the range in the middle in the profit of the anger is most appropriate.

The results also also also also also also the range or use the high and of the anger is most appropriate.

For more information on the new N application rate guidelines for com see high/lowfus soils wise aduptube MRTNV.

ADDITIONAL INFORMATION
Line recommendation may not achieve desired pH in 3 years. Retest than and apply as recommended

If time has been applied in the last two years, more time may not be needed due to incomplets reaction

This soil should be monitored more closely because it has a relatively low potassium buffering capacity. Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.

Starter fertilizer (e.g. 10+20+20 ibs N+P,O,+K,O/a) is advisable for row crops on soils slow to warm in the spring.

Year 1; If corn is harvested for sliage instead of grain apply extra 90 lbs K,O per acre to next crop.

f afata will be maintained for more than three years, increase recommended K,O by 20% each year. TEST INTERPRETATION

		LOW	TION INC.	22		LACOSSAG
Corn, grain PPPPP KKKKK	эррррррррр КККККККК	ККККККККККККККККККККККККККККККККККККК	KKK	lddddddddddd	adddddddddddddddddddddddddddddddddddddd	ddddddddd
oybean, grain PPPPP	скижижий Сити	рррррррррррррррррррррррррррр	эррэрэрэрэрэрэрэрэрэрэрэрэрэрэрэрэрэрэ	ррррррррррррр ККККК	ldddddddddddddd	ddddddddddd

1.11 "% 1.20" 1.20	Southle	Sasi	0.00	Phosphores	Passes	um echaties Casian Ma	Cathan	n E	CHAICHY ANAL	Y 50	Mungacod	R.	Sulfare Solut	Sure we	Tecture	Wei Tacture Scripter	
6.0 1.9 34 128 36.8	MCACACATA .	141	*	1476	1050	Plant [178]	5000	10/01	**	then.		tond.	12.00	Mr.dark	Code	ENORS)	Į.
	-	0.9	1.9		128										2	1.00	

Afalfa, established Rotation pH



tabous based on 10% Extension pubboaton Muraet Apphoater Rate Casterious for Field, Vegetable, and Frut Crops in Wisconnif (Addis).

Earmer's Copy

Nutrient Recommendations

Information

Samples Analyzed By:
UW Soi: 8 Plant Analysis Lab
8452 Mineral Point Road
Verona, WI 53593

Bate Received - Date Processed 9/1/2011 - 9/6/201

SOIL TEST REPORT

COOPERATIVE EXTENSION Showersty of Prescription University of Prescription Markets Department of Son Sciences

Results also available on-line at http://uwlab.soils.wisc.edu/reports lab.number: 12346 access code: 9xq/c

This Report is for: Bucky Badger

P, K, and lime Recommendations

	Cropping Sequence	90	Yield Goal	N	P205 K	9	epune Na	Toyans Name 1 P205	P205	130	z	P205	KSG
Antigo	Corn, grain		131-150 bc	5000 Carry W	0	40	0 0	0	0	0	Select Select	0.00	6
4	Soybean, grain		46-55 bu	0	0	35	0	0	0	0	0	0	35
	Affafa, seeding		1-2.5 ton	30	0	105	0	0	0	0	30	0	105
Previous Omp	Afafa, estabished		4.6-5.5 ton	0	0	300	0	0	0	0	0	0	300
no crop	The line required for this rotation to reach pH 6.8 is 12 T/a of 60-59 lime or 9 T/a of 80-89 lime.	this rotal	tion to reach pH 6	.8 is 12 T	/a of 60	-69 lime	or 9 T/a	of 80-89	me.				
	SUCCESSION AFFICATION BY TESTON CONTINUATION DITTENENT WOODIN TRICE PARTOS	EIGATE	WHATESTONE	DIMMO:	CHINE	THE PERSON	WEIGHT TO	COMM	HIGE R	SOLL	THE REAL PROPERTY.	ONESTRUMENTO DE	
Previous Orap	Crop	1			N	torn Price	a Ratio (N.Com Price Ratio (\$75 N.\$15u)	(%				
Medium'll ow Yield Potential Soils	April Soile		0.05		0.10		****	0	0.15			0.20	
		Rate	Range	Rate		Range	-	Rate	Range	92	Rate		Range
						b N/a	b N/a (Total to Apply)2	Apply)2					-
Corn, Forage legumes, Leguminous vegetables, Green manures?	ss, Leguminous anures	125	110-140	110		100-115		001	95-110	0	95	85-100	00
Soybean, Small grains*	,2,	110	90-125	85		70-95	ļ	70	60-80	0	9	95	50-70

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Guidelines for choosing an appropriate N application rate for corn (grain)

If there is more than 50% residue cover at planting, use the upper end of the range.
 If there is more than 50% residue cover at planting, use the upper end of the profitable range is the most appropriate.
 If 100% of the N will come from organic sources, use the tope and of the ange, it and for a target in attitude in a starter in any be applied in this situation.
 If on medium and five textured soils with 10% or more organic matter, use the low and of the range; for medium and fine textured soils with 10% or more organic matter, use the low and of the range; for medium and fine textured soils with 10% or more organic matter, use the low and of the range; for medium and fine textured soils with 10% or more organic matter, use the low and of the range; for medium and fine textured soils with the set than 2%.

ADDITIONAL INFORMATION Ima recommendation may not achieve desired pH in 3 years. Retest then and apply as recom

If time has been applied in the last two years, more time may not be needed due to incomplete reaction

Starter fertilizer (e.g. 10+20+20 lbs N+P,O,+K,O/a) is advisable for row crops on soils slow to warm in the spring This soil should be monitored more closely because it has a relatively low potassium buffering capacity Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.

if afaita will be maintained for more than three years, increase recommended K,O by 20% each year Year 1; If corn is harvested for sliage instead of grain apply extra 90 tos K.O per acre to next crop

TEST INTERPRETATION

Optimum Alfalfa, established Cropping Sequence Soybean, grain Alfalfa, seeding Corn, grain

	Feddara Code	cų	
	Sutter Avail 3176x	i	
	Syste-Salus Syste		
	Dr.		
	an Mangarana A pps		
MLYSIS	Sarces		
ATORY ANAL	Ear CEC Sura (remaing) Late		
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	55-52 i mte Hart (Troi	128 358	
	Polesatum	128	128
	Phospicals	34	34
	a s	6 -	6)
	養玉	6.0	6.0
	Settigle	-	Adjusted

Rotation pH



Nitrogen Rates

Information

<u>교</u>`

N rates

Results also available on-line at http://uwab.solis.wisc.adu/reports lab number, 12346 access cods: 9xqfc NUTRIENT RECOMMENDATIONS SOIL TEST REPORT Samples Analyzed By:
UW Soi & Plant Analysis Lab
8422 Minear Point Road
Verona, WI 53593
(608) 262-4364
[LAB #: 12346 Stope Agrees From Engithfurgates 0% 10 7" No Date Received Date Processed 9/1/2011 9/6/2011

COOPERATIVE EXTENSION
Manuelly of Visconian Exercises
University of Visconian Manuel
Department of Sol Science

This Report is for: Bucky Badger

300

\$ 0 g 0

0000

35 300

Yield Goal 131-150 bu 46-55 bu 1-2.5 ton 4.6-5 5 ton

Cropping Sequence

The lime required for this rotation to reach pH 6.8 is 12 T/a of 60-69

Soybean, grain Afaita, seeding Afaita, established Corn, grain

	and lime Decommendations	
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200 000 000				- N.Corn Price Hatto (\$15 N.\$15c)	atio (\$/b N.\$	(pc)		-
Madium on Vield Potential Soile		0.05	-	0.10		0.15		0.20
	Hate'	Налде	Pate ¹	Range	Rate	Range	Rate	Range
				- to N∕a (To	to N/a (Total to Apply)?			
Corn, Forage legumes, Leguminous vegetables, Green manures	125	110-140	110	100-115	100	95-110	95	85-100
Soybean, Small grains*	110	90-125	85	70-95	70	60-80	09	50-70
is the Nate day provides the ancherum early N. HATTNI, Range is the range of profitable N rates that provide an economic setum to N settini \$1 to ot the NATTNI. These rates are so for fail N applied relating N in states feelitan and N setdle in the thicking applicable. This arctitudes 1st, 2nd and 3rd year statistics and set of settle in the setul set or to age agreement and an are and an are an and set of settle in a settle dependence in a gradual settle in a set of settle in a settle in a settle settle in a settle in a settle settle in a settle settle in a settle settle in a settle in a settle settle in a set	o N (MRTN). F ter fettilizer an getables, gree r sand soils orage legume	Range is the range of Nused in herbici in manures and an	of profitable Note applications	rates that provides.	an economic 2nd and 3rd y	return to N within rear credits where	Stra of the MR applicable. Do	TN. not subtract
Guidelines for choosing an appropriate N application rate for corn (grain)	ation rate for	corn (grain)						
This tree is more than 50% established rower tupper end of he mange. 2) For small grains grown on medium and fine extured sols: It is midd to when the foreign is an extured sols: It is midd to when do fine period proper and an extured sols: It is midd to when the foreign is sterior extured to many the applied in this situation 3) If 100%, of the NWII come from organic sources, use the top end of the range. In addition, up to 20 to NWII come from organic sources, use the top end of the range. In addition, up to 20 to NWII come from organic sources, use the top end of the range.	anting, use t extured soils ces, use the	he upper end of the mid to low top end of the ra	the range and of the pr trige. In addit	ofitable range is fon, up to 20 to	the most ap Na in starter	propriate. fertilizer may b	a applied in the	nis situation
-// you mechanism enables of the range organism have no end or referrings, to medical adults exterior solis with ress from 2% organisms (see the right and of the range).	a sicre cig	der maner, cas	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	or certains or	medicin and	sime textured so	Sis with less	L'an 270
 If there is a illeathood of residual N, then use the low end of the range and subtract preplant nitrate test (PPNT) credits. For corn following small grains on medium and fine textured soils, the middle to low end of the range is most appropriate. 	the low and nd fine texture	of the range or used soils, the mic	ise the high ed	and of the range in	and subtrac s most appro	t preplant nitrate priate.	test (PPNT)	credits.
For more information on the new N application rate guidelines for com see http://uwlab.solls.wisc.edu/pubs.MRTN	ate guideline	s for com see ht	to://uwlab.so	ills, wisc edulput	WHATN			
THE REPORT OF THE PARTY OF THE	MANAGEMENT OF THE PERSON NAMED IN	CHICA	CHANGON AND THOO	ATION	The section of the se	MACADON MANAGEMENT	TAMBORISH PROPERTY.	Description of the last of the

necomme den alex	are the total announced to	אוות ביות ביות מלוות אווים מלוות אווים	חפרסווווופיותפת מופים שו נים וסיפו שוויסיו כי וחבים וים מלודל (ויבו-יי), יוכוחתיים אים ופין פיניבים			
This soil should be n	nonitored more closely	because it has a relative	This soil should be monitored more closely because it has a relatively low potassium buffering capacity.	pacity		
Starter fertilizer (e.g.	10+20+20 lbs N+P,O,	+K,O/a) is advisable for	Starter fertilizer (e.g. 10+20+20 ibs N+P,O,+K,O/a) is advisable for row crops on soils slow to warm in the spring	m in the spring.		
Year 1: If com is har	vested for silage instea	ad of grain apply extra 90	Year 1. If com is harvested for silage instead of grain apply extra 90 35s K.O per acre to next crop.			
if alfalfa will be main	tained for more than th	ree years, increase reco	If alfalfa will be maintained for more than three years, increase recommended K,O by 20% each year.	/ear.		
			TEST INTERPRETATION			201
Cropping Sequence	Very Low	Low	Optimum	High	Very High	
Corn, grain	PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP	РРРРРРРРРРРРР ККККККККККККККК	РРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРР	ddddddddddddd	РРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРР	d.
			Carlotte Contract of the Contr			

If time has been applied in the last two years, more fime may not be needed due to incomplete reaction

Afalfa, established Aifaifa, seeding Soybean, grain

Excessive

itation pH	XX	CCCCCCCC				LABORA	TORY AN	SISA							September 15
18 E	O.S.	d Disaphasa Datasana 18851.nrs Carlum a	Patempi	56-55 Lime Reg (7.6)	Carrier	Catcum Methosop Et (EC Soron Ma part son (creating) sein	Ear (EC (cmarkg)	Saran	Mangarana	Dr.	Marganese Zin, Syllite-Subur Subre Avail	Sutter Avail	Fedure	Serate	Butter
6.0	6.1	34	128	36.8									Q	1 00	5.6
	1.9	34	128												





Comments

Information

P, K, and lime Recommendations

N rates

Comments

SOIL TEST REPORT

Samples Analyzed By:
UW Sois & Pant Analysis Lab
8452 Minerar Point Road
Verons, WI 55593
(608) 262-4564
[LAB #: 12346

Results also available on-line at http://wwab.soils.wisc adurreports lab number 12346 access code: 9xqfc

This Report is for: Bucky Badger

35 300 SUGGESTED IN APPLICATION RATES FOR CORN (GRAIN) AT DIFFERENT IN CORN PRICE RATIOS 0376 The lime required for this rotation to reach pH 6.8 is 12 T/a of 60-69 lime or 9 T/a of 80-89 lime NUTRIENT RECOMMENDATIONS 36 55 58 Yield Good 131-150 bu 4.6-5.5 ton 46-55 bu Cropping Sequence Soybean, grain Afaifa, seeding Afaifa, established Corn, grain Slope Acres. Prov. Daythlingates 0% 10 7" No Date Resolved Date Processed 9/1/2011 9/6/2011 Previous Oraș no crop Field Nerne Antigo

		0.05	***	0.10	O O O O O	15		28
Medium/Low Yield Potential Soils	Hate:	Range	Rate '	Range	Rate	Range	Rate	Range
				b N'a (Total to App	a to Appivi"			
Corn, Forage legumes, Leguminous vegetables, Green manures	125	110-140	110	100-115	100	95-110	92	85-100
Soybean, Small grains!	110	90-125	88	70-95	02	60-80	09	50-70

These is the Nate and provider the recommendent for NATIV). Range is the range of profitable N rates that provide are according to the recommendent for the NATIV.
These rates are not follow application of the recommendent for the recommendent for the range of the rate o

Guidelines for choosing an appropriate N application rate for corn (grain)

1) If there is more than 50% residue cover at planting, use the upper end of the range.

For small gave sprow on medicum and first extunded soils. It is mid to low end to profitable range is the most appropriate.

S) If 100% of the N Will come from ogains sources, use the tope end of the range, I ha addition, up to 20 B. N/A in strate fertilizer may be applied in this situation.

S) If 100% of the N Will come from ogains sources, use the tope end of the range, for medium and fine textured soils with 10% or more organic matter, use the low end of the range; for medium and fine textured soils with itses than 2%.

organic matter, use the tign and of the range.

S) If there is a fleximon of resolute the use the low end of the range or use the high and of the range and subtract preplant ritrate test (PPNT) credits.

S) For conflowing small grains on medium and fine textured soils, the middle to low end of the range is most appropriate.

For more information on the new N application rate guidelines for com see http://wwists.cetup.disc.mc.RTNV.

ADDITIONAL INFORMATION

If time has been applied in the last two years, more time may not be needed due to incomplete reaction Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer Lime recommendation may not achieve desired pH in 3 years. Retest then and apply as recom-

Starter fertilizer (e.g. 10+20+20 ibs N+P₂O₄+K₂O/a) is advisable for row crops on soils slow to warm in the spring This soil should be monitored more closely because it has a relatively low potassium buffering capacity

Year 1: If corn is harvested for slage instead of grain apply extra 90 lbs K.O per acre to next crop.

if alfalfa will be maintained for more than three years, increase recommended K₂O by 20% each

Birth 1973 5.6 Optimom Low Afalfa, established Cropping Sequence Aifaita, seeding Soybean, grain Rotation pH Corn, grain

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	3.3	-	
	Section 5	cu	111000000000000000000000000000000000000
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	Softer-Subur Suther Aven type: snlex		
	dre. tora		
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	10.	128	
	Phosphase	34	34
	N. K	6.1	1.9
	 	6.0	6.0
	1226 Calter		aled Meta



Test Results

Information

P, K, and lime Recommendations

N rates

Comments

Test results

COOPERATIVE EXTENSION
Brownsky of Misonnier Madison
University of Wisonnier Madison
Department of Sol Solende 3 o 8 o 1.20 This Report is for: Bucky Badger The lime required for this rotation to reach pH 6.8 is 1.2 T/a of 60-69 lime or 9 T/a of 80-89 lime Results also available on line at http://wwb.soils.wisc.edu/reports lab number, 12946 access code; 9xqfc NUTRIENT RECOMMENDATIONS SOIL TEST REPORT 35 105 300 Yield Goal 131-150 bu 1-2.5 ton 4.6-5.5 ton 46-55 bu Oropping Sequence Soybean, grain Affaita, seading Affaita, established Corn, grain Samples Analyzed By:
UW Soi. & Part Analysis Lab
8452 Mierat Point Road
Varora, WI 53593
(608) 262-4364
LAB #: 12346 Account No. 556996 Sspa Area From Degraphing as 0% 10 7" No Date Received Date Processed 9/1/2011 Ser Rema

35 300 300

0.20 Range 50-70 Rate 95-110 08-09 Range Rate D - to N'a (Total to Apply)?-100 20 100-115 70-95 0.10 0.05 Range Rate 110 82 110-140 90-125 Rate 1 125 110 Corn, Forage legumes, Leguminous vegetables, Green manures² Medium'Low Yield Potential Soils Soybean, Small grains*

SUGGESTED N APPLICATION RATES FOR CORN (GRAIN) AT DIFFERENT N CORN PRICE RATIOS

Previous Crop

N'Corn Price Ratio (\$1b N\\$1bu)

Plate is the N rate that povides the maximum return to N,NRTN). Range is the range of portitude N rates that povide an economic return to N within \$11 or the MRTN.

The rates are to rotate the provides the return to the or the process application.

The rates are to rotate the process of the return to the process of the

Guidelines for choosing an appropriate N application rate for corn (grain)

1) If there is more than 50% residue cover at planting, use the upper end of the range.

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S) if 100% of the N will come from oganic sources, use the top end of the end of the profit of the N will come from oganic sources, use the top end of the single in 100% of more organic matter, use the low end of the range, for medium and fine textured soils with less than 2%.

organic matter, use the high and of the narge.

So there is a high land to the narge is the narge or use the high and of the range and subtract prepart intrate test (PPNT) credits.

So there is a high hood of section N, not use the low and of the narge is most appropriate.

So more information on the new N application rate guidelines for com see hitp://whab.soils.wisc.edu/pubs.MRTW.

Lime recommendation may not achieve desired pH in 3 years. Retest then and apply as recommended ADDITIONAL INFORMATION

If time has been applied in the last two years, more lime may not be needed due to incomplete reaction

Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.

Starter fertilizer (e.g. 10+20+20 lbs N+P₂O₄+K₂Ota) is advisable for row crops on solis slow to warm in the spring This soil should be monitored more closely because it has a relatively low potassium buffering capacity

Year 1: If corn is harvested for silage instead of grain apply extra 90 lbs K.O per acre to next crop.

A CONTRACTOR OF THE PROPERTY OF THE PARTY OF					TEST IN	TEST INTERPRETATION	ATION		THE STATE OF		St. Service St.		San	
Cropping Sequence	Very Low		Low		Notice Division of the Control of th	Optimum	23850773058	I	Hgh		Very High		Ě	Excessive
Corn, grain	PPPPPPP KKKKKKK	РРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРР	PPPPPPP KKKKKK	рррррр ККККК	и КККККК ККККК	KKKKKK	CKKKK	ddd	ddddd	dddddd	dddddddddddddddddddddddddddddddddddd	ррррр	dddddd	dddc
Soybean, grain	PPPPPPP KKKKKKK	РРРРРЯРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРР	ррррррр КККККК	рррррр ККККК	KKKKKKK	KKKKKK	KKKKKK	KKKKKKK	iddddd	dddddd	РРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРРР	dddddd	dddddd	dddddc
Aifalta, seeding	PPPPPPP KKKKKKK	раррарардардардардардардардардардардарда	РРРРРР КККККК	PPPPP	и КККККК	KKKKK	ddddd	ddddddd	ddddd	dddddd	ddddddd	dddddd	dddddd	dddc
Aifalfa, established	PPPPPPP KKKKKKK	ререререререререререререререререререре	PPPPPPP KKKKKKK	PPPPPP KKKKKK	ИККККК К	KKKKK	dddddd	dddddd	ddddd	dddddd	ddddddd	dddddd	dddddd	dddc
Rotation pH	XXXXXXX													
					LABORA	LABORATORY ANALYSIS	ALYSIS				100 Per 100 Pe	STOROGER	STATE OF THE PARTY	
Sangte Soil	E.M. Prosphens	rus Didesterni	68-53 Lette Rag (7-b)	Cateum	Gapties(Belg)	Ear CEC (xeroing)	Saran	Massariese	Dr.c.	Substan-Subser Substrikvan open make,	Sultur Avail Indus,	Futher	Semble	Burn
1 6.0	1.9 34	128	36.8					-			ľ	2	1.00	5.6
Adjusted 6.0	1.9 34	128												

set on UW Ens



Questions?

Robert Florence
Rflorence@wisc.edu
715-387-2523 x 13

Lab Director UW- Soil and Forage Analysis Lab 2611 Yellowstone Dr. Marshfield, WI 54449

