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Soil Analysis

Submitted By: **BN88888**

Submitted For:

Laboratory Sample #
BA00706 - BA00709

Date Received: **03/01/2017**

Date Processed: **03/02/2017**

Information Sheet # **790107**

County: Iowa
Account No: BN88888
Field: 1-4
Acres 13.3
Soil Name/Subsoil group: unknown
Plow Depth: 7.00
Previous Crop:
Slope:
Irrigated: No
Tiled: No

NUTRIENT RECOMMENDATIONS

Cropping Sequence	Yield Goal	Crop Nutrient Need N	P_2O_5	K_2O	Fertilizer Credits Legume N	Manure N	P_2O_5	K_2O	Nutrients to Apply N	P_2O_5	K_2O
	- per acre -	--------- lbs/a ---------			--- lbs/a ----	--------- lbs/a ---------			--------- lbs/a ---------		
Corn, grain	111-130 bu	***	0	20	0	0	0	0	***	0	20
Oats, grain + straw	61-90 bu	40	0	55	0	0	0	0	40	0	55
Alfalfa, established	4.6-5.5 ton	0	0	150	0	0	0	0	0	0	150
Alfalfa, established	4.6-5.5 ton	0	0	150	0	0	0	0	0	0	150

There is no lime recommendation for this rotation. Please see Additional Information below.

*** Please use the new Wisconsin Nitrogen Application Rates table to determine the N Application rate. Table included at end of report.

TEST INTERPRETATION

LABORATORY ANALYSIS | LAB USE | MISC

Adjusted Avg: 6.9 4.3 86 175

Sample ID	Soil pH	O.M. %	Phosphorus PPM	Potassium PPM	60-69 Lime Req T/a	Calcium PPM	Magnesium PPM	Boron PPM	Manganese PPM	Zinc PPM	Sulfate Sulfur	Sulfur Avail Index	Texture Code	Sample Density	Buffer Code	Total CEC	% Base Saturation %K	%Ca	%Mg	Tot %	%H
49	7.0	4.1	43	176									2	0.89							
50	6.9	4.8	162	148									2	0.88							
51	6.6	3.8	114	177									2	0.89							
52	6.9	4.4	25	197									2	0.92							

ADDITIONAL INFORMATION

N.R.=Not required for calculation of lime requirement when soil pH is 6.6 or higher.
If barley or oats are underseeded with a legume forage, eliminate or reduce N by half.
Starter fertilizer (e.g. 10+20+20 lbs N+P2O5+K2O/a) is advisable for row crops on soils slow to warm in the spring.
Because of very high P levels, P2O5 applications from fertilizer or manure should be reduced and crops with a high P removal should be grown.
If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
Year 1 If corn is harvested for silage instead of grain apply extra 90 lbs K2O per acre to next crop.
A lime recommendation is calculated only when soil pH is more than 0.2 units below the optimum pH. Starter fertilizer (e.g. 10 + 20 + 20 lbs N + P_2O_5 + K_2O/a) is advisable for row crops on soils slow to warm in the spring.
A soil nitrate test may better estimate actual corn N needs. If conservative tillage leaves more than 50% residue cover when corn follows after corn, add an additional 30 N lb/a.

Nitrogen Applicaton Rate Guidelines for Corn

(For more info, see http://www.soils.wisc.edu/extension/pubs/A2809.pdf.)

Justification: While the yield response of corn to applied N has not changed, the economics of corn production have. Recently soil fertility specialists in Wisconsin, Minnesota, Iowa, and Illinois have agreed to use the same philosophy to develop N rate guidelines for corn (grain). The philosophy used is based on maximizing return to N fertilizer. The new N rate guidelines were developed as a means to provide growers guidance on how much they might adjust their N application rates and maintain or enhance profitability depending upon their individual farm situation. Research data collected in Wisconsin from research farms and grower fields over a period of 20 years was used to develop the guidelines.

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

Soil and Previous Crop	N:Corn Price Ratio ($/lb N:$/bu) 0.05 Rate*3	0.05 Range *4	0.10 Rate*3	0.10 Range *4	0.15 Rate*3	0.15 Range *4	0.20 Rate*3	0.20 Range *4
	lb N/a (Total to Apply) *2							
HIGH YIELD POTENTIAL SOILS								
Corn, Forage Legumes, Leguminous vegetables, Green manures *5	190	170-210	165	155-180	150	140-160	135	125-150
Soybean, Small grains*6	140	125-160	120	105-135	105	95-115	95	80-105
MEDIUM YIELD POTENTIAL SOILS								
Corn, Forage Legumes, Leguminous vegetables, Green manures *5	145	130-160	125	115-140	115	105-125	105	95-110
Soybean, Small grains *6	130	110-150	100	85-120	85	70-95	70	60-80
IRRIGATED SANDS AND LOAMY SANDS								
All Crops *5	215	200-230	200	185-210	185	175-195	175	165-185
NON-IRRIGATED SANDS AND LOAMY SANDS								
All Crops *5	140	130-150	130	120-140	120	110-130	110	100-120

*1 To determine soil yield potential, consult UWEX publication A2809 or contact your county agent or agronomist.
*2 Includes N in starter.
*3 Maximum return to N (MRTN) rate.
*4 Profitability range within $1/a or MRTN rate.
*5 Subtract N credit for forage legumes, legume vegetables, animal manures, green manures.
*6 Subtract credits for animal manures and second year forage legumes.

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.
2) For small grains grown on medium and fine textured soils, the mid to low end of the profitable range is the most appropriate.
3) If 100% of the N will come from organic sources, use the top end of the range. In addition, up to 20 lb N/a in starter fertilizer may be applied.
4) For medium and fine textured soils with: < 2% organic matter, use the high end of the range; > 10% organic matter, use the low end of the range.
5) For coarse textured soils with: <2% organic matter, use the high end of the range; > 2% organic matter, use the mid to low end of the range.
6) If there is a likelihood of residual N, then use the low end of the range or use the high end of the range and subtract preplant nitrate test (PPNT) credits.
7) For corn following small grains on medium and fine textured soils, the middle to low end of the range is most appropriate.