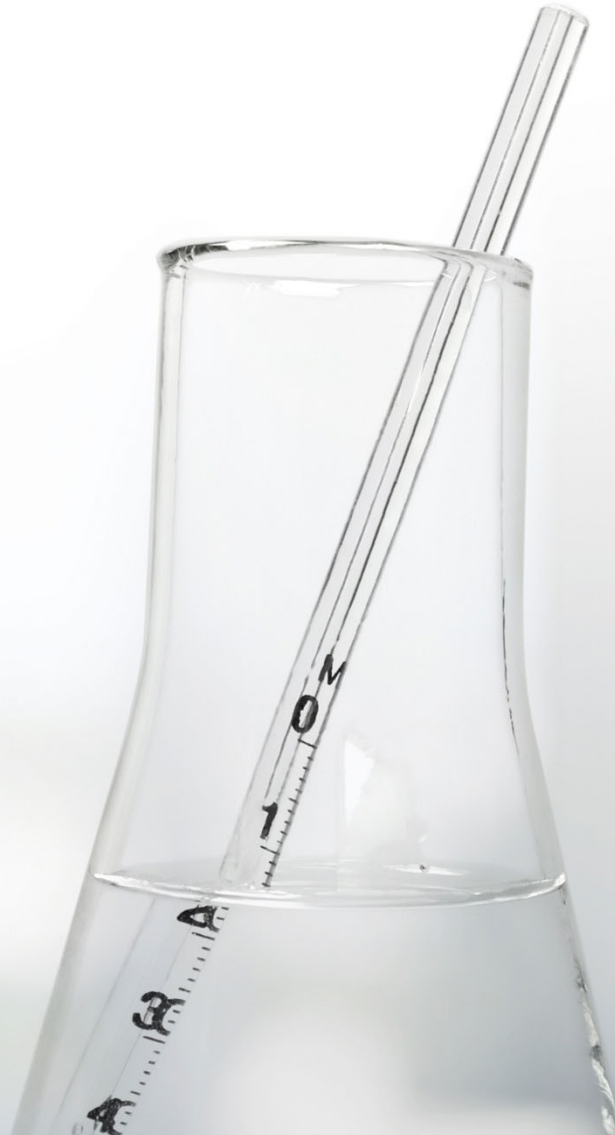


# Collecting and Interpreting Lawn and Garden Soil Samples

Jamie Bultemeier, CPAg/CCA/4R NMS  
A&L Great Lakes Laboratories, Fort Wayne, IN



# Why Soil Test?

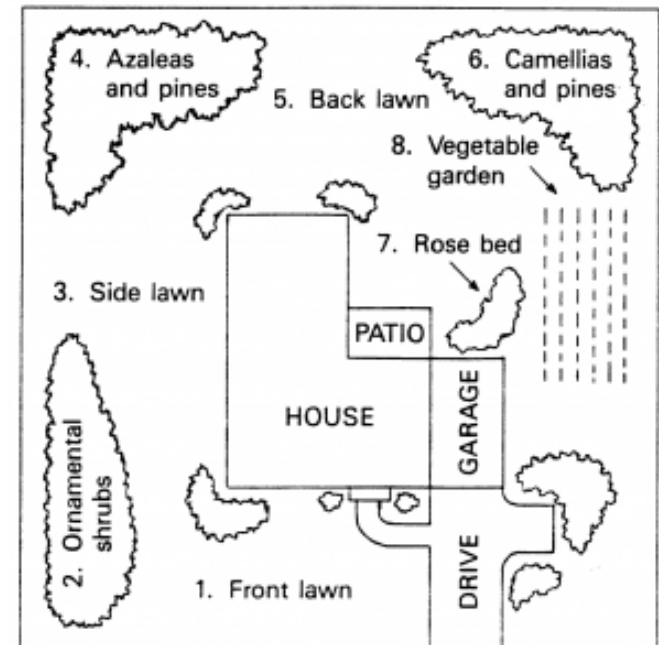
- Identify limiting factors & deficiencies
- Determine how much nutrient to apply
- Help identify the correct form of nutrient to apply
- Track progress

# How Often Should You Sample

- For normal maintenance, every 4 years
- For tracking progress of aggressive soil improvement, every 2 years
- Only reason to sample every year would be to track pH changes when aggressively management of soil pH

# Number of Samples

- How large is the area?
- Are there defined regions/sections?
- How small of an area are you willing/able to fertilize separately?
- Past management
- Different uses



Alabama Cooperative Extension

# Different Types of Sampling Devices



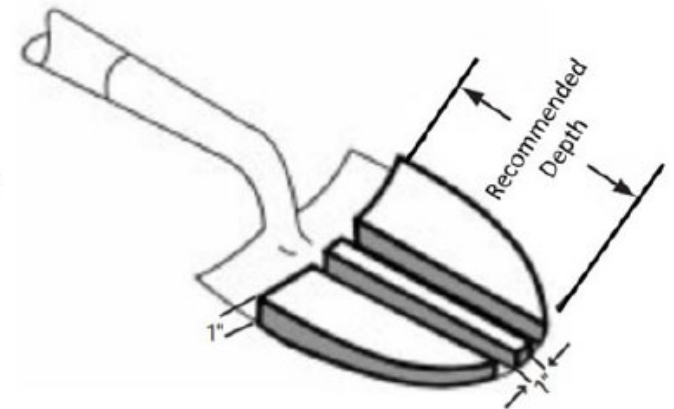
Tube (probe)



Auger



Spade or shovel



# Collecting the Cores

- Remove plant residue or plant material from the soil surface. Often best to do this before collecting the core.
- Keep sampling depth consistent.
  - 0-4" turf
  - 0-6" garden



# Bucket for Mixing Samples

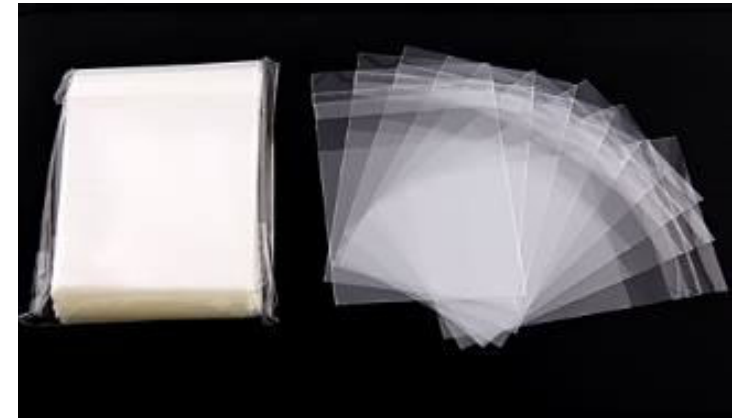
- Plastic or stainless steel – galvanized steel or aluminum can contaminate soil samples
- Use a new bucket – avoid reusing buckets that have been used for mixing sprays, strong cleaning products, paints etc.



# Sample Bags



Lab Provided Bags



Ziploc™ Bags

Labeling your sample bags prior to collection will help you keep to your sampling plan and save you a lot of hassle in the field.



ACCOUNT NUMBER



## SOIL SAMPLE SUBMITTAL FORM

Scientists who don't mind getting dirty.™

SUBMITTED BY		REFERENCE INFORMATION		REPORT OPTIONS
		Grower / Project		<input type="checkbox"/> <b>Standard Report</b> (10 samples per page) <input type="checkbox"/> <b>Graphic Report</b> (1 sample per page) <input type="checkbox"/> <b>Field Summary Report</b> (field average) <i>Other report styles available, please inquire</i>
		Farm / Location		
		Field / Site		
		E-mail Address		

SAMPLE ID* (max 10 char)	LAB NUMBER (lab use only)	TEST PACKAGES								OTHER TESTS	COMPLETE THIS SECTION FOR RECOMMENDATIONS							
		S1	S1A	S1B	S2	S3	S5	S6	S7		** R	Previous Crop	First Crop	Yield Goal	Second Crop	Yield Goal	Third Crop	Yield Goal

\*PLEASE LIST EACH SOIL SAMPLE SEPARATELY

\*\*MARK (X) IF CROPS ARE IN A MULTI-YEAR ROTATION

EXPLANATION OF SOIL TEST PACKAGES	ADDITIONAL TESTS OR INFORMATION
<b>S1</b> - Organic matter, P, K, Mg, Ca, soil pH, buffer pH, CEC <b>S1A</b> - S1 plus Bray P2 <b>S1B</b> - S1 plus sodium bicarbonate P <b>S2</b> - S1 plus soluble salts and sodium	
<b>S3</b> - S, Zn, Mn, Fe, Cu, B <b>S5</b> - S, Zn <b>S6</b> - S, Zn, Mn, B <b>S7</b> - Zn, Mn, B	

ACCOUNT NUMBER



Scientists who don't mind getting dirty.™

LAWN & GARDEN SOIL TEST			
REPORT TO		FOR	
Name		Name	
Street		Street	
City, State, Zip		City, State, Zip	
E mail Address		E mail Address	
Payment Type	<input type="checkbox"/> Check Enclosed <input type="checkbox"/> Check Number <input type="checkbox"/> Email Payment Link To		

SAMPLE INFORMATION							
LAB USE ONLY	SAMPLE ID	TEST PACKAGES*			TO BE GROWN*		
		BASIC	COMPLETE	OTHER	OPTION 1	OPTION 2	OPTION 3
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				

\*TEST PACKAGES AND FEES (per sample)

Payment must accompany samples unless prior arrangements are made. Reports will be mailed within 3-4 working days after samples are received.

**\$25.00 per sample** **Basic Test** - (includes up to 3 fertilizer recommendations selected from FERTILIZER RECOMMENDATION OPTIONS)  
Analyses include organic matter, phosphorus, potassium, calcium, magnesium, CEC, pH and buffer pH. Graphic report format.

**\$35.00 per sample** **Complete Test** - (includes up to 3 fertilizer recommendations selected from FERTILIZER RECOMMENDATION OPTIONS)  
Analyses include organic matter, phosphorus, potassium, calcium, magnesium, sodium, CEC, pH, buffer pH, conductivity, boron, copper, iron, manganese, sulfur, and zinc. Graphic report format.

\*FERTILIZER RECOMMENDATION OPTIONS

Lawn & Turf	Garden	Landscape	
101 - Lawn Maintenance (established lawn)	109 - Flowers	113 - Acid Loving Shrubs	116 - Ground Covers
102 - Lawn Seeding and Establishment	110 - Fruit Trees	114 - Broadleaf Shrubs	117 - Roses
	111 - Small Fruits	115 - Evergreen Shrubs	118 - Shade Trees
	112 - Vegetable Garden		

*Note: These tests and recommendations are not appropriate for greenhouse media and soil mixes.*

HOW TO TAKE A SOIL SAMPLE

<p>1.</p> <p>To take the sample, use a sampling tube, spade, trowel or long knife. Sample 6-8 inches deep for gardens shrubs or trees and 3-4 inches for turf. Discard any surface residue, thatch or stones.</p>	<p>2.</p> <p>Turf, garden, and landscape beds should be considered separate areas and sampled as such. To get a good sample for each area, collect several cores or slices from various locations within each area and combine these to create your sample.</p>	<p>3.</p> <p>Combine the cores or slices in a bucket and mix well. Transfer one (1) cup of the mixed sample to a soil sample or plastic bag. Label and number the sample bag, and fill out this form completely.</p>	<p>4.</p> <p>Enclose the soil sample bag in a shipping box. Place this information sheet along with payment into the box with the samples. Fasten securely and ship via UPS or Parcel Post.</p>
---	---	--	---

# What Do the Numbers Tell Us?

Soil Test Report													
Reported To			Sample Information						Customer Information				
			Report Number	F23055-0155									
			Report Date	3/21/2023									
			Lab Number										
			Sample ID										
			To Be Grown	LAWN - MAINTENANCE									
Analysis Results													
Analysis			Result		Soil Test Rating								
					Very Low	Low	Medium	High	Very High				
Organic Matter, %			1.8		<div style="background-color: #cccccc; width: 33%; height: 15px;"></div>								
Phosphorus, ppm P (Bray-1 Equiv.)			8		<div style="background-color: #cccccc; width: 16%; height: 15px;"></div>								
Potassium, ppm K			94		<div style="background-color: #cccccc; width: 50%; height: 15px;"></div>								
Magnesium, ppm Mg			270		<div style="background-color: #cccccc; width: 71%; height: 15px;"></div>								
Calcium, ppm Ca			1850		<div style="background-color: #cccccc; width: 83%; height: 15px;"></div>								
Cation Exchange Capacity, meq/100g			12.1		<div style="background-color: #cccccc; width: 51%; height: 15px;"></div>								
pH			6.8		<div style="background-color: #cccccc; width: 33%; height: 15px;"></div>								
Annual Nutrient Requirement													
Pounds per 100 Square Feet						Pounds per 1,000 Square Feet							
Lime	Nitrogen (N)	Phosphorus (P2O5)	Potassium (K2O)	Magnesium (Mg)	Sulfur (S)	Lime	Nitrogen (N)	Phosphorus (P2O5)	Potassium (K2O)	Magnesium (Mg)	Sulfur (S)		
0	0.4	0.3	0.3	0.0		0	4	3	3	0			
Suggested Fertilizer Application													
	NPK Fertilizer Grade	Description	Annual Application Rate										
			lbs per 100 sq. ft.	lbs per 1,000 sq. ft.									
Product 1	28-0-3	Slow Release Fertilizer	1.4	OR 14.0									
Product 2	6-24-24	Low N Fertilizer	1.2	OR 12.0									
Comments													
Use both of the fertilizers listed above or other materials of similar NPK analysis. Split the recommended amount of 28-0-3 into at least 3 applications over the growing season, applying 1/3 in late spring, early fall and late fall. Split the recommended amount of 6-24-24 into 2 applications, spring and mid-fall. Water well after each application.													

# What Do the Numbers Tell Us?

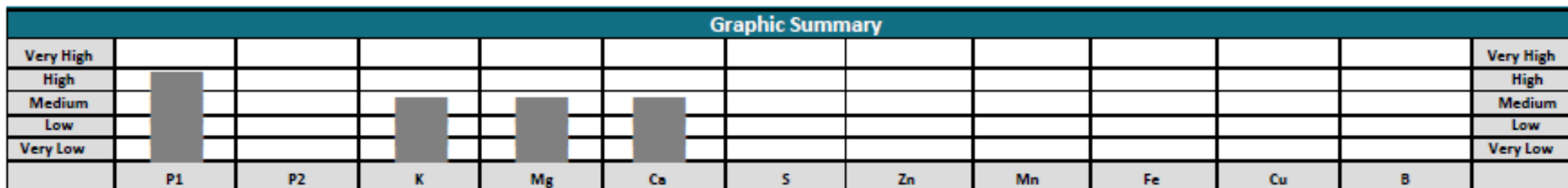
Sample ID: 1

Lab Number: 1224

## SOIL TEST REPORT

Page: 1 of 1

Test Results														
Organic Matter %	Phosphorus		Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	pH		CEC meq/100g	Cation Saturation				
	Bray-1 Equiv ppm-P	Bray P2 ppm-P					Soil pH	Buffer pH		% K	% Mg	% Ca	% H	% Na
4.8	34		73	110	850		5.9	6.9	6.6	2.9	14.0	64.8	18.3	
Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts (1:2) mmho/cm	Nitrate NO <sub>3</sub> -N ppm	Ammonium NH <sub>4</sub> -N ppm	Bicarbonate-P P ppm	Chloride Cl ppm		Aluminum Al-M3 ppm		



Soil Fertility Recommendations - Pounds per 1,000 Square Feet														
Intended Crop	Yield Goal	Previous Crop	Lime	Nitrogen N	Phosphate P <sub>2</sub> O <sub>5</sub>	Potash K <sub>2</sub> O	Magnesium Mg	Sulfur S	Zinc Zn	Manganese Mn	Iron Fe	Copper Cu	Boron B	
Lawn - Maintenance			25	4	1	3	0							

Report reviewed and approved by our professional agronomy staff.

AGL-01-0001

**Sample 1:** LAWN - Split the recommended amount into 3-4 applications during a growing season.