

Western Laboratories, Inc.

211 Hwy 95 • Parma, Idaho 83660 • 208-649-4360
www.westernlaboratories.com

Lab Number 100

Date: 9/23/2021

Client: 11-111

Gardner:

Garden ID: New Yard

Lawn, Parks, Trees & Shrubs

SOIL REPORT



ELEMENT	YOURS	INTERP	Should Be	ELEMENT	YOURS	INTERP	Should Be
pH-Water	7.0	Neutral Soil		Potassium-ppm	234	Adequate	350 +
pH-SMP				Magnesium-ppm	166	Low	300 +
Texture	Loamy Sand			Sodium-ppm	26	OK	< 150
Soluble Salts	0.09	Normal	< 1.5	Zinc-ppm	2.0	Adequate	1.5 - 3.0
CEC Cation Exchange Capacity	8	Low		Iron-ppm	21	Low	25+
% Lime	0.2	Potential sealing		Manganese-ppm	3	Low	6 - 30
% Organic Matter	0.68	Very Low		Copper-ppm	0.6	Low	1.2 - 2.5
Nitrates-ppm	6	Very Low	25 - 35	Sulfate-ppm	12	Low	20 +
Ammonium-ppm	2	Low	5 +	Boron-ppm	0.4	Low	0.8 - 1.2
Phosphorus-ppm	22	Low	40 +	Chloride-ppm			< 80
Calcium-ppm	1823	Medium	1,500 +	% Base Saturation	140	Strongly Basic	
NUTRIENT UPTAKE FORMS				BASES		IDEAL	YOURS
Nitrogen (N) NH ₄ ⁺ NO ₃ ⁻		Zinc (Zn) Zn ⁺⁺		Calcium-% of CEC		65-80	114
Phosphorus (P) H ₂ PO ₄ ⁻		Manganese (Mn) Mn ⁺⁺		Magnesium-% of CEC		10-20	17
Potassium (K) K ⁺		Copper (Cu) Cu ⁺⁺		Potassium-% of CEC		2-6	8
Calcium (Ca) Ca ⁺⁺		Sulfate (SO ₄ -S) SO ₄ ⁻		Sodium-% of CEC		< 5	1
Magnesium (Mg) Mg ⁺⁺		Boron (B) H ₂ BO ₃		Hydrogen-% of CEC		< 15	
RECOMMENDATIONS IN POUNDS PER 1,000 SQUARE FEET							
GROUP	LAWN	DECIDUOUS	EVERGREEN	SHRUBS	FLOWERS	GROUND COVER	ACID TOLERANT
Nitrogen*	5.4	3.1	4	3.1	3.5	2.6	2.6
Phosphate	3.2	2.2	1.8	1.3	2.2	1.3	2.7
Potash	2.7	1.5	.1				.1
Sulfate Sulfur	.6	.4	.4	.2	.4	.2	.4
Elemental Sulfur							
Gypsum							
Lime							
RECOMMENDATIONS IN OUNCES PER 1,000 SQUARE FEET							
Magnesium	3.7	5.2	3	3	4.1	2.8	3.1
Zinc	2.6	2.6	2.2	1.5	1.8	1.1	1.8
Iron	3.3		7	3.3			3.3
Manganese	2.6	2.9	2.6	1.5	1.8	1.1	1.5
Copper	.5	.9	.5	.3	.3	.1	.5
Boron	.4	.4	.2	.2	.2	.2	

"Always practice the laws of Agronomy." - John P. Taberna, Soil Scientist

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Lab Number
39634

Date: 4-14-2021

Client: 11-111

Gardner: Western Laboratories

Garden ID:

GARDEN, BERRIES, AND FRUIT TREES SOIL REPORT



ELEMENT	YOURS	INTERP	Should Be	ELEMENT	YOURS	INTERP	Should Be
pH - Soil	5.7	Moderately Acidic		Potassium-ppm	141	Low	350 +
pH - Buffer	6.3			Magnesium-ppm	104	Low	300 +
Texture	Sandy Loam			Sodium-ppm	41	OK	< 150
Electrical Conductivity mmhos/cm	0.06	Normal	< 1.5	Zinc-ppm	1.4	Low	1.5 - 3.0
CEC Cation Exchange Capacity	9 Meq/100g			Iron-ppm	106	Adequate	20+
% Lime	0.0	Good		Manganese-ppm	9	Adequate	6 - 30
% Organic Matter	2.8	Medium		Copper-ppm	0.8	Low	1.2 - 2.5
Nitrates-ppm	2	Very Low	35 +	Sulfate-ppm	26	Adequate	20 +
Ammonium-ppm	6	2 - 15		Boron-ppm	0.5	Low	0.8 - 1.2
Phosphorus-ppm	75	High	25 +	% Base Saturation	77		
Calcium-ppm	1168	Low	1,500 +	BASES		IDEAL	YOURS
NUTRIENT UPTAKE FORMS				Calcium-% of CEC		65-80	62
Nitrogen (N) NH ₄ ⁺ NO ₃ ⁻	Zinc (Zn) Zn ⁺⁺			Magnesium-% of CEC		10-20	9
Phosphorus (P) H ₂ PO ₄ ⁻	Manganese (Mn) Mn ⁺⁺			Potassium-% of CEC		2-6	4
Potassium (K) K ⁺	Copper (Cu) Cu ⁺⁺			Sodium-% of CEC		< 5	2
Calcium (Ca) Ca ⁺⁺	Sulfate (SO ₄ -S) SO ₄ ⁼			Hydrogen-% of CEC		< 15	23
Magnesium (Mg) Mg ⁺⁺	Boron (B) H ₂ BO ₃						

RECOMMENDATIONS IN POUNDS PER 1,000 SQUARE FEET PPM X .08 = Pounds/1000 SqFt

GROUP	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	GROUP 6	GROUP 7	GROUP 8
Nitrogen*	2.6	5.4	3.5	3.1	4	3.1	2.8	3.5
Phosphate	2.3	4.2	1.7	1	1.5	2.9	2.6	2
Potash	5.3	7.1	3.7	3.7	3.7	5.9	3.7	7.1
Sulfur	.1	.6	.3	.3	.9	.6	.1	.8
Elemental Sulfur								
Gypsum								
Lime	38	32	26	27	26	27	45	32
Magnesium	.5	.7	.5	.5	.5	.6	.5	.7
RECOMMENDATIONS IN OUNCES PER 1,000 SQUARE FEET								
Zinc	3.1	2.6	2.1	1.3	2.2	1.3	1.3	2.1
Iron								
Manganese	.9	1.5	.7		.7			1.5
Copper	.8	.8	.4	.4	.4	.4	.4	.4
Boron	.6	.6	.6	.6	.6	.6	.6	.6

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Western Laboratories Garden Categories			
GROUP 1	GROUP 2	GROUP 3	GROUP 4
<i>Grapes (all)</i>	<i>Bell Peppers</i>	<i>Berry (all)</i>	<i>Bok Choy</i>
<i>Alfalfa</i>	<i>Celery</i>	<i>Cucumbers</i>	<i>Collards</i>
<i>Beans (all edible)</i>	<i>Egg Plant</i>	<i>Muskmelons</i>	<i>Greens</i>
<i>Clover</i>	<i>Potatoes</i>	<i>Small Pumpkins</i>	<i>Herbs (all)</i>
<i>Peas (all)</i>	<i>Sweet Corn</i>	<i>Fruit Trees (all)</i>	<i>Lettuce</i>
<i>Vetch</i>	<i>Tomatoes</i>		<i>Mustard</i>
	<i>Sweet Potatoes</i>		<i>Okra</i>
	<i>Lawn</i>		<i>Spinach</i>
GROUP 5	GROUP 6	GROUP 7	GROUP 8
<i>Chives</i>	<i>Beets</i>	<i>Broccoli</i>	<i>Giant Pumpkins</i>
<i>Garlic</i>	<i>Carrots</i>	<i>Brussels Sprouts</i>	<i>Cucumbers</i>
<i>Leek</i>	<i>Parsnips</i>	<i>Cabbage</i>	<i>Watermelon</i>
<i>Onions</i>	<i>Radishes</i>	<i>Caulifloweer</i>	<i>Cantaloupe</i>
<i>Shallots</i>	<i>Rutabaga</i>	<i>Currants</i>	<i>Squash, Summer & Winter</i>
<i>Asparagus</i>	<i>Turnips</i>	<i>Kale</i>	
		<i>Kohlrabi</i>	

If the water extracted pH is less than 6.7, add 10 pounds of Lime per 1000 square feet. If the pH is greater than 6.7 and the Ca is less than 2400 ppm, add 5 pounds Gypsum per 1000 square feet. It takes up to 7 years for Lime to completely dissolve. Don't expect rapid increase in pH. Remember: You're only treating the top 6 inches with Lime. Gypsum will go into the solution in the first year.

All recommendations are in pounds and ounces per square feet.

Example 1: Your garden is 35 ft wide by 55 feet long, or 1925 square feet. If you divide your square footage by 1,000 you'll put on 1.925 times the recommendation for your garden.

Example 2: Your garden is 80 ft wide by 125 feet long, or 10,000 square feet. If you divide your square footage by 1,000 you'll put on 10 times the recommendation for your garden.

If the water extracted pH is less than 6.7, add 10 pounds of Lime per 1,000 square feet. If the pH is greater than 6.7 and the Calcium is less than 2400 ppm, add 5 pounds of Gypsum. It takes up to 7 years for Lime to completely dissolve. Don't expect rapid increase in pH. Remember: You're only treated the top 6 inches with Lime. Gypsum will go into solution in the first year.

PHOSPHATE (P205)

Example 3: The lab recommends 4 pounds of Phosphate per 1000 square feet. You're going to use 11-52 Ammonium Phosphate. CALCULATION: $1 \times .52 = .52$ pounds of Phosphate per pound of 11-52. $4 \text{ pounds of recommendation} / .52 = 7.69$ pounds per 1000 square feet. If you take example 1 $(1.925) \times 7.69 = 14.80$ pounds of Phosphate per garden. 11-52 also contains 11% Nitrogen. CALCULATION: $1 \times .11 = .11 \times 7.69 \text{ pounds} = .85$ pounds Nitrogen per 1000 square feet.

NITROGEN (N)

The lab suggests 3.5 pounds of Nitrogen. **Never apply more than 1 pound of Nitrogen when using Ammonium Sulfate.** Never apply 1.5 pounds Nitrogen when using other Nitrogen products. If you take example 3, by using 11-52 you're adding .85 pounds of Nitrogen per 1000 square feet already. If you added one pound of Uriaah per thousand you'd be adding an additional .46 pounds N per 1000 square feet. If you add the two together you've added 1.31 pounds per 1000 square feet, which is okay.

POTASH (K20)

The lab recommends 6 pounds of Potash per 1000 square feet. The best source for pre-plant K is 0-0-50 Potassium Sulfate. You will need to apply 12 pounds 0-0-50 to get 5 pounds per 1000 square feet. Two pounds of Potassium Sulfate equals one pound of K20. You would apply 12 pounds every 1000 square feet to meet the 6 pound recommendation. During midseason, if you notice marginal burning, add 2 pounds of 0-0-60 Potassium Chloride per 1000 square feet and thoroughly water with overhead irrigation. This would equal 1.2 pounds of K20.

If your soil test contains lime, do not use Gypsum. Elemental Sulfur converts to sulfuric acid and reacts with the lime in your soil to form Gypsum. Adding Gypsum to soils lime will form more lime. Lime + soil + water forms cementing of the soil which means water runs off the surface.

*** Do not apply more than five pounds of fertilizer on established vegetation at one time. Always irrigate following fertilization on established crop. Over and under irrigation is a major cause of poor plant appearance.**

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Lab Number
35184

Date: 1/22/2021

Client:

Gardner:

Garden ID:

GARDEN, BERRIES, AND FRUIT TREES SOIL REPORT



ELEMENT	YOURS	INTERP	Should Be	ELEMENT	YOURS	INTERP	Should Be
pH - Soil	7.5	Slightly Basic		Potassium-ppm	170	Low	350 +
pH - Buffer				Magnesium-ppm	159	Low	300 +
Texture	Loam			Sodium-ppm	21	OK	< 150
Electrical Conductivity mmhos/cm	0.27	Normal	< 1.5	Zinc-ppm	2.7	Adequate	1.5 - 3.0
CEC Cation Exchange Capacity	15 Meq/100g			Iron-ppm	24	Adequate	20+
% Lime	1.0	Potential Sealing		Manganese-ppm	3	Low	6 - 30
% Organic Matter	4.9	Medium		Copper-ppm	2.1	Adequate	1.2 - 2.5
Nitrates-ppm	12	Low	35 +	Sulfate-ppm	19	Low	20 +
Ammonium-ppm	3	2 - 15		Boron-ppm	0.6	Low	0.8 - 1.2
Phosphorus-ppm	27	Adequate	25 +	% Base Saturation	120		
Calcium-ppm	3333	High	1,500 +	BASES		IDEAL	YOURS
NUTRIENT UPTAKE FORMS				Calcium-% of CEC		65-80	108
Nitrogen (N) NH ₄ ⁺ NO ₃ ⁻	Zinc (Zn) Zn ⁺⁺			Magnesium-% of CEC		10-20	9
Phosphorus (P) H ₂ PO ₄ ⁻	Manganese (Mn) Mn ⁺⁺			Potassium-% of CEC		2-6	3
Potassium (K) K ⁺	Copper (Cu) Cu ⁺⁺			Sodium-% of CEC		< 5	1
Calcium (Ca) Ca ⁺⁺	Sulfate (SO ₄ -S) SO ₄ ⁼			Hydrogen-% of CEC		< 15	
Magnesium (Mg) Mg ⁺⁺	Boron (B) H ₂ BO ₃						

RECOMMENDATIONS IN POUNDS PER 1,000 SQUARE FEET PPM X .08 = Pounds/1000 SqFt

GROUP	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	GROUP 6	GROUP 7	GROUP 8
Nitrogen*	1.9	4.6	2.8	2.3	3.3	2.3	2.1	2.8
Phosphate	3.4	5.3	2.8	2.1	2.6	4	3.7	3.1
Potash	4.6	6.4	3	3	3	5.3	3	6.4
Sulfur	.3	.7	.5	.5	1.1	.7	.3	.9
Elemental Sulfur	5	4	6	4	5	5	4	6
Gypsum								
Lime								
Magnesium	1	1.4	1	1	1	1.2	1	1.4
RECOMMENDATIONS IN OUNCES PER 1,000 SQUARE FEET								
Zinc	2.6	2.1	1.6	.8	1.8	.8	.8	1.6
Iron								
Manganese	3.1	3.7	2.9	2.2	2.9	2.2	2.2	3.7
Copper	.3	.3						
Boron	.5	.5	.5	.5	.5	.5	.5	.5

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