



OrganiCalc Pro - Logan Labs

Report name: **Main Garden** Test Date: 7/23/20 Today: 01/18/22
 *Email address: alice@growabundant.com
 Next crop: Veggies Last crop: Veggies
 *Soil test report: Logan Labs Std M3 w/ extras

Target cations and elements: Ca 68% Mg 12% K 4% Na 1.0%
 Elemental P (lbs/a) 500 S (lbs/ac) auto Target pH 6.8 More

Logan Labs Std M3 w/ extras Test Report

Sample Location	Main
Sample ID	Garden
Lab Number	
* Sample Depth in Inches	6
* Total Exchange Capacity (M.E.)	10.98
* pH of Soil Sample	7.70
* Organic Matter (%)	3.19
* Sulfur: ppm	61
Mehlich III as (P2O5)	
* Phosphorus lbs/acre	915
Calcium: Desired value	
* lbs/acre Value found	3357
Deficit	
Magnesium: Desired value	
* lbs/acre Value found	441
Deficit	
Potassium: Desired value	
* lbs/acre Value found	181
Deficit	
* Sodium: lbs/acre	53
* Calcium (60 to 70%)	76.42
* Magnesium (10 to 20%)	16.73
* Potassium (2 to 5%)	2.11
* Sodium (.5 to 3%)	1.05
Other Bases (Variable)	3.70
Exchangable Hydrogen (10 to 15%)	0.00
* Boron (ppm)	0.77
* Iron (ppm)	123
* Manganese (ppm)	47
* Copper (ppm)	4.95
* Zinc (ppm)	12.94
Aluminum (ppm)	166
Cobalt (ppm)	0.74
Molybdenum (ppm)	2.32
Ammonium (ppm)	
Nitrate (ppm)	
Selenium (ppm)	0.29
Silicon (ppm)	10
EC mmhos/cm	0.26

(* = required entry)

Alerts

<> Your soil may contain free calcium. Conduct a 'fizz' test.

<> Check box override is active

Click switch to override an error message, if present. Use with caution!

[Nitrogen has moved to the next tab]

Enter Area To Be Amended and Select Units:

-----> 800 sq feet
 lbs/oz

Enter Depth To Mix Amendments

-----> 6 inches

Choose N amount and sources

Choose Target Nitrogen Amount

150 ▾

lbs/acre ▾

or enter here -->

Best fit source will have this N-P-K: 1.5 - 2.3 - 1.9

<https://growabundant.com/how-much-nitrogen-shall-i-add/>

Use Original OrganiCalc pre-selected nitrogen sources

Do not use additional N-P-K amendments

Choose carbon-based N-P-K amendments

Select the C:N ratio of each amendment and the overall C:N ratio is calculated below the chart

Tick the box next to N, P or K to ignore the contribution of that element in the calcs

1 Name: **Steer manure compost**
 Select C:N ratio: **Manure or vermi- compost (C:N = 12)**
 or enter C:N ratio here ->
 N 0.5 Slide to select amount: 21
 P 0.2 amount:
 K 0.4 Amount: 116 lbs

2 Name: **Vermicompost**
 Select C:N ratio: **Manure or vermi- compost (C:N = 12)**
 or enter C:N ratio here ->
 N 1 Slide to select amount: 2
 P 1 amount:
 K 1 Amount: 6 lbs

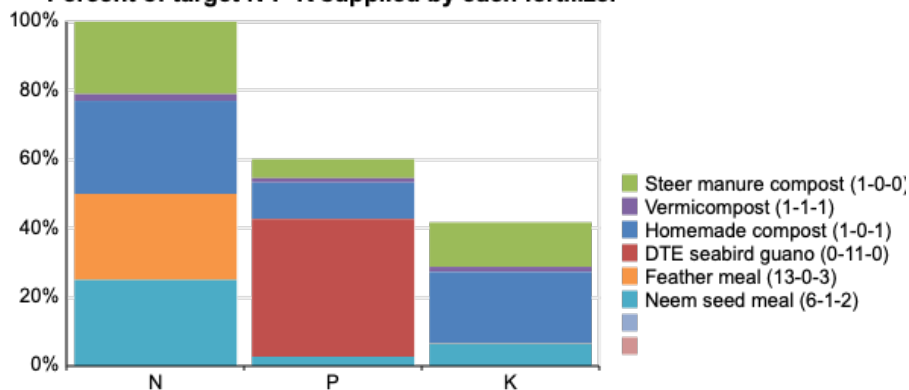
3 Name: **Homemade compost**
 Select C:N ratio: **Plant based compost (C:N = 15)**
 or enter C:N ratio here ->
 N 0.5 Slide to select amount: 27
 P 0.3 amount:
 K 0.5 Amount: 149 lbs

4 Name: **DTE seabird guano**
 Select C:N ratio: **-**
 or enter C:N ratio here ->
 N 0 Slide to select amount: 40
 P 11 amount:
 K 0 Amount: 15 lbs

5 Name: **Feather meal**
 Select C:N ratio: **Pelleted animal product (C:N = 6)**
 or enter C:N ratio here ->
 N 13 Slide to select amount: 25
 P 0 amount:
 K 3 Amount: 5 lbs

6 Name: **Neem seed meal**
 Select C:N ratio: **Seed meal (C:N = 7)**
 or enter C:N ratio here ->
 N 6 Slide to select amount: 33
 P 1 amount:
 K 2 Amount: 11 lbs

Percent of target N-P-K supplied by each fertilizer



C:N ratio of these amendments together

Overall C:N ratio = 10.1

Amendment Recommendations

Amendment Recommendations

Report name: Main Garden

Test Date: 7/23/20

Recommended Amendments for 800 sq feet

	Amt	Units	Notes
Kelp and/or Azomite, combined (for trace minerals)	8	lbs	5
Homemade compost (1-0-1)	149	lbs	4
Steer manure compost (1-0-0)	116	lbs	4
DTE seabird guano (0-11-0)	15	lbs	
Neem seed meal (6-1-2)	11	lbs	4
Vermicompost (1-1-1)	5.5	lbs	4
Tiger-90 Elemental Sulfur	5.5	lbs	11
Feather meal (13-0-3)	5.3	lbs	4
Potassium Sulfate	4.1	lbs	
Borax	7.3	oz	
Cobalt (Co) Sulfate Heptahydrate	2.3	oz	
Total weight of all amendments	320		

Notes:

<> A handful or two of vermicompost dug in under transplants can increase yields substantially. Inoculate with mycorrhizae and other beneficial microbes. Apply compost as it is available. Try to get organic matter to 5%; 10% is better, 30% is more than enough. The compost I can make or purchase is best used as mulch. I cover it with a bit of straw to keep it moist and alive, and decaying in place. A one-time or cumulative application of 0.6" of biochar will improve yields and quality in about 3 years.

2 <> Amount per application limit was reached for these elements, compounds and/or amendments: Tiger-90 Elemental Sulfur. Retest next year

4 <> See <https://growabundant.com/how-much-nitrogen-shall-i-add> for advice on Nitrogen.

5 <> Alternatively, foliar feed Kelp every 2 weeks or as needed to supply trace minerals. Soil applied trace mineral amounts may be reduced after the initial application.

11 <> This soil has a pH greater than 7.2 and is not fizzy and is therefore a candidate for pH adjustment. A total of 401 lbs/acre of elemental sulfur will lower the soil pH to 6.8. Sulfur is likely to diminish potassium reserves; retest every 6 months. In addition to the 6 lbs of Tiger-90 elemental sulfur in this application it is estimated that 18 oz more will be required. Tiger-90 applications are limited to a maximum of 300 lbs/acre once or (rarely) twice a year.

13 <> Phosphorus is especially unavailable at this pH; rock phosphate soil application is not recommended. Increase the biological activity of the soil with active compost and/or drench with a phosphoric acid stabilized fish hydrolysate (approximately 2-4-0).

20 <> Available silicon has been found to be beneficial to plants. Foliar feed potassium silicate as a mildew preventative (check with your certifier). Soil-applied basalt rock dust has also been shown to supply silicon in low pH, weathered soils.

Additional Comments:

Soil Amendment Constants

Soil Amendment Values (% by weight) used for calculations

Use?		All values are in percent.								Applica-tion limit (lbs/ac)
		P2O5	K2O	S	Ca	Mg	Fe	Na	Si	
<input checked="" type="checkbox"/>	Bone Meal	29.9			12.0			5.7		
<input type="checkbox"/>	Wollastonite (see note)				34.0				24.0	
<input checked="" type="checkbox"/>	Fertoz (preferred) or CalPhos, Soft Rock Phosphate	20.0			20.0					
<input checked="" type="checkbox"/>	Gypsum (Solution grade)			17.0	20.5					
<input checked="" type="checkbox"/>	Potassium Sulfate		51.0	17.5						
<input checked="" type="checkbox"/>	Greensand		7.0				9.0			
<input checked="" type="checkbox"/>	Agricultural Limestone (100 mesh or finer)				39.0					8000
<input checked="" type="checkbox"/>	Dolomitic Limestone (100 mesh or finer)				22.0	13.0				8000
<input checked="" type="checkbox"/>	K Mag, Langbeinite, Sul-Po-Mag		22.0	22.0		11.0				
<input checked="" type="checkbox"/>	Epsom Salts (see note 22)			13.0		10.0				

Use?		All values are in percent.								Applica-tion limit (lbs/ac)
		S	Fe	Mn	Cu	Zn	B	Co	Mo	
<input checked="" type="checkbox"/>	Tiger-90 Elemental Sulfur	90.0								300
<input checked="" type="checkbox"/>	Borax						10.0			
<input checked="" type="checkbox"/>	Ferrous Sulfate Heptahydrate	18.0	20.0							
<input checked="" type="checkbox"/>	Manganese (Mn) Sulfate	19.0		32.0						
<input checked="" type="checkbox"/>	Bioimin Copper (4% Cu)				4.0					
<input checked="" type="checkbox"/>	Zinc (Zn) Sulfate (monohydrate)	17.0				35.0				
<input checked="" type="checkbox"/>	Cobalt (Co) Sulfate Heptahydrate	17.0						33.0		
<input checked="" type="checkbox"/>	Sodium Molybdate Dihydrate								39.6	

Trace Mineral Sources (2 default sources and 2 custom sources)

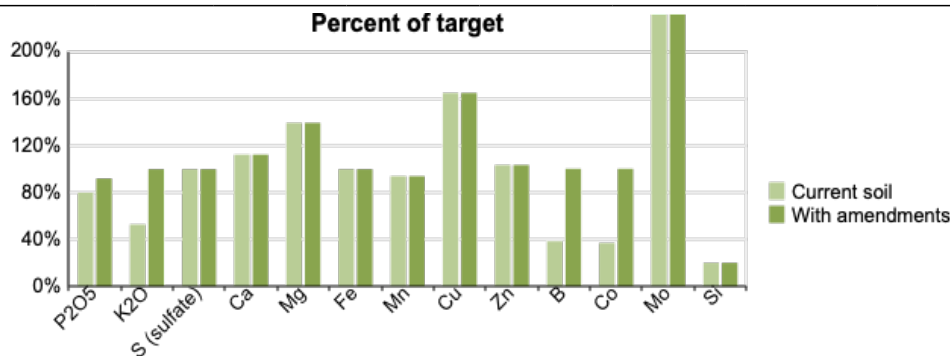
By default Azomite and Kelp will be recommended. When K is excessive, only Azomite will be recommended.

Application rate (total for all trace minerals) 435 lbs/ac

- Kelp
- Azomite
-
-

Analysis Details (6" furrow depth)

	Measured (lbs/ac)	Target %	Target (lbs/acre)	Measurement percent of target	Application limit (lbs/ac)	Amount needed (lbs/ac)	Amount to be applied (lbs/ac)	Measured plus amount to be applied (lbs/ac)	How'd we do? % of target this application
N	--		150			150	150		100%
P2O5	915		1144	80%	400	229	138	1053	92%
P	400		500	80%	175	100	60	460	92%
K	181	4.0%	343	53%	100000	162	162	343	100%
K2O	218		413	53%	100000	195	195	413	100%
S (as sulfate)	122		80	153%	100000	0	40	162	203%
S (as elemental)	-		270	-	270	270	270	-	100%
Ca	3357	68%	2987	112%	100000	0	0	3357	112%
Mg	441	12%	316	139%	285	0	0	441	139%
Fe	246		120	205%	100000	0	0	246	205%
Mn	94		100	94%	100000	0	0	94	94%
Cu	9.9		6	165%	100000	0.0	0.0	9.9	165%
Zn	25.9		25	104%	100000	0.0	0.0	25.9	104%
B	1.5		4.0	39%	100000	2.5	2.5	4.0	100%
Na	53	1.0%	51	105%	100000	0	0	53	
Co	1.48		4	37%	100000	2.5	2.5	4.0	100%
Mo	4.64		2	232%	100000	0.0	0.0	4.6	232%
Si	20		100	20%	100000	80	0	20	20%



Main Garden

Note: P ranging between 250 and 500 lbs/ac. has been set to 100% and has been divided in half above 500 lbs/ac. Fe above 100% has been set to 100%. Sulfur between 100% and 400% target has been set to 100% and has been divided by 4 above 400%.

