

REPORT OF ANALYSIS

Ventana Plant Science Commercial Products - Nutritional Analysis

Analysis	Level Found	Units	Reporting	Method	Analyst- Date	Verified- Date
	As Received		Limit			
Sample ID: VPS Commercial Grow Lab Number: 70082910 Date Sampled: 2022-03-07						
Nitrogen (total)	7.77	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	eas2-2022/03/18
Phosphate (P2O5)	14.0	%	0.10	MWL ME PROC 26	Auto-2022/03/17	eas2-2022/03/18
Potash (K2O)	30.1	%	0.05	MWL ME PROC 26	Auto-2022/03/21	eas2-2022/03/21
Boron (total)	696	ppm	100	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sulfur (total)	n.d.	%	0.05	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Magnesium (total)	n.d.	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sodium (total)	2.32	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Iron (total)	8770	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Calcium (total)	0.04	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Manganese (total)	3690	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Zinc (total)	2740	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Copper (total)	771	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sample ID: VPS Commercial Bloom Lab Number: 70082911 Date Sampled: 2022-03-07						
Nitrogen (total)	3.33	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	eas2-2022/03/18
Phosphate (P2O5)	27.8	%	0.10	MWL WC PROC 04	jed2-2022/03/21	eas2-2022/03/21
Potash (K2O)	41.2	%	0.05	MWL ME PROC 26	Auto-2022/03/21	eas2-2022/03/21
Boron (total)	740	ppm	100	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sulfur (total)	n.d.	%	0.05	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Magnesium (total)	n.d.	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18

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Ventana Plant Science Commercial Products - Nutritional Analysis

Analysis	Level Found		Reporting		Analyst-Date	Verified-Date
	As Received	Units	Limit	Method		
Sample ID: VPS Commercial Bloom	Lab Number: 70082911 (con't)					
Sodium (total)	0.47	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Iron (total)	11800	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Calcium (total)	0.02	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Manganese (total)	3890	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Zinc (total)	5580	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Copper (total)	1080	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sample ID: VPS Commercial FlaVUH	Lab Number: 70082912	Date Sampled: 2022-03-07				
Nitrogen (total)	1.40	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	tat9-2022/03/18
Phosphate (P2O5)	0.89	%	0.10	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18
Potash (K2O)	1.16	%	0.05	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18
Boron (total)	n.d.	ppm	100	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Sulfur (total)	0.09	%	0.05	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Magnesium (total)	n.d.	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Sodium (total)	0.05	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Iron (total)	n.d.	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Calcium (total)	0.08	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Manganese (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Zinc (total)	27.3	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Copper (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18

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	As Received		Limit			
Sample ID: VPS Commercial Kelp Seaweed						
	Lab Number: 70082913		Date Sampled: 2022-03-07			
Nitrogen (total)	0.92	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	eas2-2022/03/18
Phosphate (P2O5)	0.11	%	0.10	MWL ME PROC 26	Auto-2022/03/17	eas2-2022/03/18
Potash (K2O)	18.2	%	0.05	MWL ME PROC 26	Auto-2022/03/21	eas2-2022/03/21
Boron (total)	159	ppm	100	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sulfur (total)	2.19	%	0.05	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Magnesium (total)	0.75	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sodium (total)	3.65	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Iron (total)	220	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Calcium (total)	0.47	%	0.01	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Manganese (total)	54.0	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Zinc (total)	37.7	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Copper (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	eas2-2022/03/18
Sample ID: VPS Commercial Calcium Nitrate						
	Lab Number: 70082914		Date Sampled: 2022-03-07			
Nitrogen (total)	13.62	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	tat9-2022/03/18
Phosphate (P2O5)	n.d.	%	0.10	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18
Potash (K2O)	0.07	%	0.05	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18
Boron (total)	n.d.	ppm	100	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Sulfur (total)	n.d.	%	0.05	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Magnesium (total)	0.09	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18

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	As Received		Limit			
Sample ID: VPS Commercial Calcium Nitrate		Lab Number: 70082914 (con't)				
Sodium (total)	0.06	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Iron (total)	n.d.	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Calcium (total)	22.6	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Manganese (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Zinc (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Copper (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18
Sample ID: VPS Commercial Magnesium Sulfate		Lab Number: 70082915	Date Sampled: 2022-03-07			
Nitrogen (total)	0.69	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	eas2-2022/03/18
Phosphate (P2O5)	n.d.	%	0.10	MWL ME PROC 26	Auto-2022/03/21	eas2-2022/03/21
Potash (K2O)	0.22	%	0.05	MWL ME PROC 26	Auto-2022/03/21	eas2-2022/03/21
Boron (total)	n.d.	ppm	100	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Sulfur (total)	12.4	%	0.05	MWL ME PROC 26	trh1-2022/03/18	eas2-2022/03/21
Magnesium (total)	9.51	%	0.01	MWL ME PROC 26	trh1-2022/03/18	eas2-2022/03/21
Sodium (total)	0.01	%	0.01	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Iron (total)	59.1	ppm	50.0	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Calcium (total)	0.05	%	0.01	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Manganese (total)	28.4	ppm	20.0	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Zinc (total)	21.8	ppm	20.0	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21
Copper (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/21	eas2-2022/03/21

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Ventana Plant Science Commercial Products - Nutritional Analysis

Analysis	Level Found	Reporting			Analyst-Date	Verified-Date	
	As Received	Units	Limit	Method			
Sample ID: VPS Commercial Silicon	Lab Number: 70082916	Date Sampled: 2022-03-07					
Nitrogen (total)	0.11	%	0.01	ASA #9 Chapter 29 and 31	jmr5-2022/03/16	tat9-2022/03/18	
Phosphate (P2O5)	n.d.	%	0.10	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18	
Potash (K2O)	n.d.	%	0.05	MWL ME PROC 26	Auto-2022/03/17	tat9-2022/03/18	
Boron (total)	n.d.	ppm	100	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Sulfur (total)	n.d.	%	0.05	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Magnesium (total)	0.14	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Sodium (total)	0.50	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Iron (total)	93.2	ppm	50.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Calcium (total)	0.54	%	0.01	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Manganese (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Zinc (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Copper (total)	n.d.	ppm	20.0	MWL ME PROC 26	trh1-2022/03/17	tat9-2022/03/18	
Silicon (acid soluble)	16000	ppm	10.0	EPA 6010	ery3-2022/03/28	trh1-2022/03/29	

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Analysis	Level Found	Units	Reporting Limit	Method	Analyst-Date	Verified-Date
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All results are reported on an AS RECEIVED basis., n.d. = not detected , ppm = parts per million, ppm = mg/kg

For questions please contact:

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Account Manager
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Detailed Method Description(s)

Elemental combustion Nitrogen, Carbon, Hydrogen

Analysis follows WC 111 - 116 based on ASA #9 Chapter 29 and 31 and AOAC 993.13. Samples are ground to a fine, homogenous consistency and a small amount weighed and introduced into the instrument. The sample is burned in the presence of oxygen to release gases such as carbon dioxide, nitrogen, and hydrogen and the levels of a specific gas determined and reported.

ICP Analysis Fertilizers AOAC 985.01 (mod)

Analysis follows MWL ME 026 which is based on AOAC 985.01. Samples have been prepared using MWL WC 056. Total minerals in fertilizers have been prepared by AOAC 957.02 using mineral acids and heat. Water soluble manganese is prepared by AOAC 972.03 and the other water soluble by AOAC 977.01. Sample analysis involves moving the sample extract into the ICP where it is nebulized and introduced into the high temperature plasma which energizes the electrons of the dissolved minerals/metals. As the energized electrons of the minerals/metals return to ground state, energy is released as light. The emitted wavelength(s) and light intensities are used to identify and quantitate the minerals/metals in the sample.

ME 042

Analysis follows MWL ME 042 which is based on EPA 6010b, Inductively Coupled Plasma (ICP). A light emission technique where prepared samples are injected into a high energy plasma that forces the elements in the injected sample to emit light energies which are proportional to the level of minerals and metals present. The light is then detected and correlated to the levels of minerals and metals in the original sample.

AOAC 957.02 (P2O5 preparation)

Samples are treated with hydrochloric acid and nitric acid on a hot plate to destroy organic material and dissolve phosphate.

Fertilizer Prep AOAC 957.02

Samples are prepared using a combination of nitric acid and heat. The heating takes place in a block digester.

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