



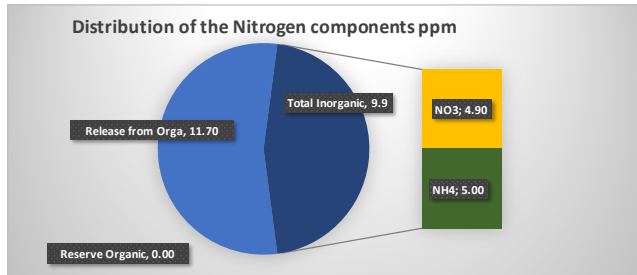
CLIENT INFORMATION	
Contact Person	Me Martli Slabber
Farm Name	Hexrivier Sitrus (Edms) Bpk
Postal Address	Posbus 20, Citrusdal, 7340
Tel	082 448 2541
Email	m slabber@hexfruit.co.za
Results to	Me Martli Slabber
Client Reference	Kompos - Johnson Sue

SAMPLE INFORMATION	
Sampled by	Me Martli Slabber
Date Sampled	-
Date Received	03-05-2021
Result Date	10-06-2021
Notes	The thresholds in this report is set up for soil and it must be viewed critically for compost samples.
Lab Number	SH400

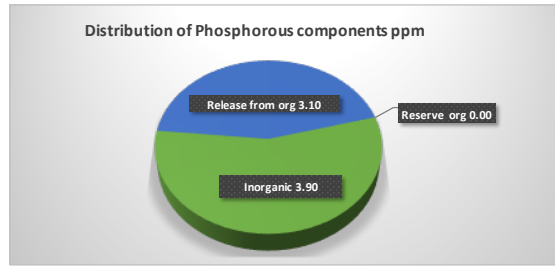


SOIL HEALTH & FERTILITY ASSESSMENT

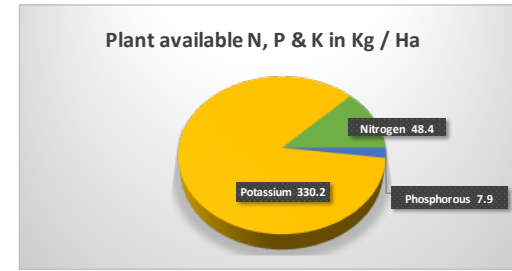
NITROGEN							PHOSPHOROUS					POTASSIUM					
Root exudate simulated extract H3A			H2O Extract	Tot N	N released from	Tot avail N	N Kg/ha	Org / Inorg (relation)	Inorganic	Organic	Tot P	P Released from	Tot Avail	Kg/ha	Org / Inorg	Inorganic H3A extract	Kg / ha
NO3	NH4	Tot Inorg	Org N	Org + Inorg	Org component	H3A extract			Organic component	PHOSPHOROUS ppm	Potassium ppm						
4.90	5	9.9	11.7	21.6	11.7	21.6	48.4	1.18	3.9	3.1	7	3.10	7.0	7.9	0.8	296	330.2



N ppm	Available	Reserve	Total
Inorganic	9.9	0	9.9
Organic	11.70	0.00	11.70
Total	21.60	0.00	21.60



P ppm	Available	Reserve	Total
Inorganic	3.9	0.00	3.90
Organic	3.10	0.00	3.10
Total	7.00	0.00	7.00



R / Ton	Nutrient value	Total	Organic	Inorganic
11200	Nitrogen	R 542	R 294	R 248
14500	Phosphorous	R 115		R 115
11700	Potassium	R 3 863		R 1 276
		R 4 520	R 294	R 1 639

Saving on inorganic N fertilizer

BIOLOGICAL ANALYSES					
Microbial Respiration	Water Extract		C/N	Soil Health Calculation (Index)	Comment
CO2 - C (ppm C)	Organic C ppm C	Organic N ppm N			
81.6	55	11.7	4.7	10.4	Excellent

AGGREGATE STABILITY TEST RESULT				
Volumetric Aggregate stability %		2		
0 -15 %	15 -30 %	30 -45 %	45 -60 %	>60%
Very low	Low	Average	Good	Excellent

OTHER NUTRIENT FACTORS		
1:1 Soil pH (H2O)		6.03
1:1 Soluble Salts	mmho / cm	ND
Excess lime rating		ND
Soil Organic Matter	%	11.9
Microbial Active C (MAC)	%	148.4
Calcium	ppm	2586
Aluminium extractable	ppm	22.0
Iron extractable	ppm	6.0
Magnesium	ppm	477.0
Sulfur	ppm	43.3
Zinc	ppm	0.90
Manganese	ppm	3.3
Copper	ppm	0.10
Sodium	ppm	536.0
% P Saturation (Al / Fe)		25.0
% P Saturation (Ca)		0.3

Definitions & Explanations	
Root Exudate Simulated Extract H3A	This is an extract developed by Dr Rick Haney who developed the SHT. It is a weak acid extract "mimicking" what the root exudes.
N Released from the Soil Organic Matter	Function of the microbial activity as determined by the soil respiration rate, the Water Extractable Organic Carbon (WEOC) and the Water Extractable organic Nitrogen (WEON) ratio.
Reserve Organic Nitrogen	Total WEON minus that released portion.
% Phosphorous Saturation (Al/Fe)	Amount of P divided by Al + Fe analysed. A figure below 5 would suggest the application of P fertilizer.
% Phosphorous Saturation (Ca)	Amount of P divided by Ca analysed. A figure below 5 would suggest the application of P fertilizer.

PLFA (Phospho Lipid Fatty Acid) analysis

Sample ID 1	JOHNSON SU
Sample ID 2	SH 400
Total Microbial Biomass ng/g	2689.42
Diversity Index	1.509
Bacteria %	43.46
Total Bacteria Biomass	1168.83
Actinomycetes %	6.60
Actinomycetes Biomass	177.47
Gram (-) %	14.61
Gram (-) Biomass	393.02
Rhizobia %	0.00
Rhizobia Biomass	0.00
Total Fungi %	15.66
Total Fungi Biomass	421.29
Arbusular Mycorrhizal %	5.44
Arbusular Mycorrhizal Biomass	146.42
Saprophytic %	10.22
Saprophytes Biomass	274.87
Protozoan %	0.37
Protozoa Biomass	9.88
Gram (+) Biomass	775.81
Gram (+) %	28.85
Undifferentiated %	40.51
Undifferentiated Biomass	1089.42
Fungi:Bacteria	0.3604
Predator:Prey	0.0085
Gram(+):Gram(-)	1.974
Sat:Unsat	2.0734
Mono:Poly	87.4059
Pre 16:1w7c:cy17:0	1.8725
Pre 18:1w7c:cy19:0	2.261

Produce antibiotics, bind atmospheric nitrogen and assist with organic material decomposition

Higher levels of Rhizobia reflect better levels of atmospheric nitrogen capture into the soil

High levels of Mycorrhiza represent better Phosphate and other nutrient utilization

High levels of Protozoa represent good organic nitrogen cycling.

Gram negative dominant lower range indicates stress

Higher values in both these parameters indicate less stress of microbiological communities.

When ZERO levels are reported it does not necessarily mean complete absence but merely the quantum is less than the level of detection by the test

Indication of mode of soil health status within the measured parameters	Soil Health Index SHI	CO2-C Respiration ppm over 24 hours	Water Extractable Organic Carbon (WEOC) ppm	Soil Organic Matter %	Total Microbial Biomass	Total Fungal Biomass	Microbial Active Carbon MAC %	Mycorrhizae (VAM) Biomass	Water Extractable Organic N WEON ppm	Protozoa Biomass	Rhizobia Biomass	Diversity Index
Survival mode	<4.5	<35	<170	<2	<1500	<50	<30	<20	<8	<8	<20	<1
Progression mode	4.5 - 10	35 - 75	170 - 350	2 - 3.5	1500 - 4000	50 - 300	30 - 50	20 - 100	8 - 19	8 - 20	20 - 80	1 - 1.5
Regenerative mode	>10	>75	>350	>3.5	>4000	>300	>50	>100	>19	>20	>80	>1.5

Critical Haney & other Soil Health Data

Aggreg Stability	MAC %	Soil Org mat %	SOC %	WEOC ppm	WEON ppm	WEOC % of Tot SOC	Resp CO2 ppm	S H score
2	148	11.9	6.92	55	11.7	0.1	82	10

Evaluation Summary Biology, Nitrogen, Phosphate, H3A Mineral Extract Analyses, Key Chemical ratios, Plant Effective CEC Base Saturation & Liming recommendation.

Element or Category	Your reading	Ideal level
Biological Analysis		
Soil Organic Matter %	11.9	more than 2.5
Soil life - Soil respiration	81.6	more than 50
% Microbially Active Carbon (MAC)	148	more than 20
Soil Health Index	10.4	more than 7
Volumetric Aggregate stability %	2.0	more than 45
Nitrogen Analysis		
WEON released & available to roots ppm	11.7	As high as possible
WEON reserve NOT RELEASED	0.0	As low as possible
Total available Nitrogen in Kg/ha	48	
Phosphate Analysis		
Total available (ppm)	7.0	10 - 20
% P Saturation Ca	0	plus 5
% P Saturation Fe / Al	25	plus 5
Haney H3A Extract Analysis		
Soil pH (Water)	6.03	5.5 - 6.5
Soluble salts mmho/cm	ND	lower than 0.65
Potassium K ppm	296	120 - 200
Calcium Ca ppm	2586	Ratios important
Magnesium Mg ppm	477	Ratios important
Sulfur S ppm	43.3	more than 12
Iron Fe ppm	6	20 - 80
Zinc Zn ppm	0.9	1 - 3
Manganese Mn ppm	3.3	4 - 6
Copper Cu ppm	0.1	0.5 - 1.0
Key chemical ratios		
Calcium : Magnesium	3.3	more than 5
(Calcium + Magnesium)/Aluminium	206.7	more than 1.7
Magnesium:Potassium	5.2	1 to 2
Potassium : Sodium	0.3	more than 1
Plant Effective CEC Saturation analyses		
Calcium Ca %	64.6	more than 68
Magnesium Mg %	19.5	10 to 20
Potassium K %	3.8	more than 5
Sodium %	11.6	less than 2