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ANALYSIS REPORT REFERENCE: 21-03-19967

**CHEMICAL COMPONENTS
ANALYTICAL REPORT**

Nature of Product: GroGreen Universal 3-0,2-6 Sample.

Date of Report: 26th. March 2021.

Sample Size: 1 x 500mls.

**E.Marker A/S
Okslundvej 8
BOV DK-6330
Padborg
Denmark.**

For the Attention of: Mr. Carsten Marker.

Contact No. +46 74670808

Email: Carsten@marker.DK.

Date of Sample: 18th. March 2021.

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Heavy Metals Analysis

Heavy Metal	Method of Analysis	Units	Reported Levels
Arsenic (Inorganic)	ICP-OES	mg/Litre (ppm).	0.0350
Arsenosugars (Organic)	ICP/IC-OES	mg/Litre (ppm).	2.6651
Antimony as Sb.	ICP-OES	mg/Litre (ppm).	< 0.002
Cadmium as Cd.	ICP/IC-OES	mg/Litre (ppm).	0.019
Mercury as Hg.	Cold Vapour A.A.S.	mg/Litre (ppm).	< 0.0001
Lead as Pb.	ICP-OES	mg/Litre (ppm).	< 0.002
Chromium as Cr.	ICP/IC-OES	mg/Litre (ppm).	< 0.005
Nickel as Ni.	ICP-OES	mg/Litre (ppm).	< 0.002
Silver as Ag.	ICP-OES	mg/Litre (ppm).	< 0.0001
Vanadium as V.	ICP/IC-OES	mg/Litre (ppm).	< 0.0003
Tin as Sn.	ICP-OES	mg/Litre (ppm).	< 0.005
Aluminium as Al.	ICP/IC-OES	mg/Litre (ppm).	< 0.002

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Bioactives Profile

Parameter	LOD	Method Type	Units	Results
Alginic acid	0.002%	HPLC-PDA	% mass.	22.100
β-D-mannuronic acid				15.100
α-L-guluronic acid				6.000
Laminarin	0.002%	HPLC-PDA	% mass.	5.350
1,3-β-D-glucopyranose				3.250
1,3-β-D-galactopyranose				2.100
Fucoidan	0.002%	HPLC-PDA	% mass.	5.800
Sulphated Fucans				3.500
Sulphated Mannans				2.300
Mannitol	0.002%	HPLC-PDA	% mass.	5.115

Sugars Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Carbohydrate	HPLC-PDA	ISO 11292	% mass	38.36%
Sucrose				20.600%
α-Glucose				6.250%
β-Glucose				3.150%
Fructose				2.995%
Glucopyranose				1.480%
Galactofuranose				0.550%
Raffinose				2.100%
Inositol				1.000%
Mannopyranose				0.200%

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Chemical Compositional

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Potassium as K.	ICP-OES	APHA 3500	% weight	5.460%
Phosphorus as P.	ICP-OES	APHA 3500	% weight	0.235%
Nitrogen as N.	Kjeldahl Distillation	APHA 3500	% weight	3.990%
Organic (Ureic)				1.320%
Inorganic (Anionic)				2.670%
Iron as Fe.	ICP-OES	APHA 3500	% weight	0.455%
Elemental Sulphur S.	Elemental Analyser	In-House Method	% weight	2.470%
pH Value	Electrometric	In-House Method	pH Units	4.51
Organic Matter	Elemental Analyser	In-House Method	% weight	87.80%
Specific Gravity	Densitometry	In-House Method	g/kg ⁻¹ .	1.118
Fulvic acid Content	RP-HPLC-PDA	In-House Method	% weight	0.280%

Plant Hormones Compositional

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Betaines Content	HPLC-PDA	In-House Method	mg/Litre	188
Cytokinins Content	UHPLC-MS	In-House Method	mg/Litre	48
Gibberellins Content	UHPLC-MS	In-House Method	mg/Litre	28
Auxins Content	HPLC-PDA	In-House Method	mg/Litre	25
Strigolactones	HPLC-PDA	In-House Method	mg/Litre	0.033
Brassinosteroids	HPLC-PDA	In-House Method	mg/Litre	0.012

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Herbicide Residues Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Sulfonyl Ureas/Ureas	UHPLC-MS	APHA 6630	µg/g.	< 0.004
Imidazolinones/Diphenylethers	UHPLC-MS	APHA 6630	µg/g.	< 0.005
Phenoxy/Chlorophenoxy	UHPLC-MS	APHA 6630	µg/g.	< 0.006
Dinitroalinine/Acetamides	UHPLC-MS	APHA 6630	µg/g.	< 0.002
Bipyridillums/Triketones	UHPLC-MS	APHA 6630	µg/g.	< 0.004
Thiocarbamates	UHPLC-MS	APHA 6630	µg/g.	< 0.035
Glyphosate/Glufosinate	UHPLC-MS	APHA 6630	µg/g.	< 0.002
Atrazine desethyl deisopropyl	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Atrazine deisopropyl	UHPLC-MS	APHA 6630	µg/g.	< 0.003
Atrazine desethyl	UHPLC-MS	APHA 6630	µg/g.	< 0.002
Simazine	UHPLC-MS	APHA 6630	µg/g.	< 0.005
Terbutylazine desethyl	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Atrazine	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Terbutryn	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Terbutylazine	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Alachlor	UHPLC-MS	APHA 6630	µg/g.	< 0.004
Metolachlor	UHPLC-MS	APHA 6630	µg/g.	< 0.005
Aminopyralid	LS-MS-MS	APHA 6630	µg/g.	< 0.001
Clopyralid	LS-MS-MS	APHA 6630	µg/g.	< 0.001
Triclopyr	LS-MS-MS	APHA 6630	µg/g.	< 0.002

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Pesticide Residues Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Organochlorine Residues	UHPLC-MS	APHA 6630	µg/g.	< 0.002
Organophosphorus Residues	UHPLC-MS	APHA 6630	µg/g.	< 0.002
Organonitrogen Residues	UHPLC-MS	APHA 6630	µg/g.	< 0.050
Carbamate Pesticides	UHPLC-MS	APHA 6630	µg/g.	< 0.030
Pyrethroid Residues	UHPLC-MS	APHA 6630	µg/g.	< 0.001
Organotin Residues	UHPLC-MS	APHA 6630	µg/g.	< 0.002

Trace Minerals Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Magnesium as Mg.	ICP-OES	APHA 3500	g/Litre.	3.800
Calcium as Ca.	ICP-OES	APHA 3500	g/Litre.	2.930
Sodium as Na.	ICP-OES	APHA 3500	g/Litre.	1.245
Manganese as Mn.	ICP-OES	APHA 3500	mg/Litre.	91
Zinc as Zn.	ICP-OES	APHA 3500	mg/Litre.	21
Copper as Cu	ICP-OES	APHA 3500	mg/Litre.	5
Iodine as I ₂	IC/ICP-OES	APHA 3500	mg/Litre.	199
Selenium as Se	ICP-OES	APHA 3500	mg/Litre.	3.455
Chromium as Cr	ICP-OES	APHA 3500	mg/Litre.	0.122
Molybdenum as Mo.	ICP-OES	APHA 3500	mg/Litre.	1.889
Boron as B.	ICP-OES	APHA 3500	mg/Litre.	2.125

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Amino Acids Profile

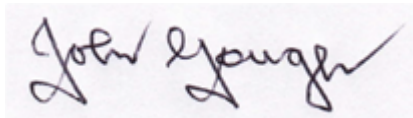
Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Glutamic acid	LC-MS	JHG-097	mg/100ml.	148
Aspartic acid	LC-MS	JHG-097	mg/100ml.	66
Arginine	LC-MS	JHG-097	mg/100ml.	81
Glycine	LC-MS	JHG-097	mg/100ml.	55
Alanine	LC-MS	JHG-097	mg/100ml.	32
Serine	LC-MS	JHG-097	mg/100ml.	29
Proline	LC-MS	JHG-097	mg/100ml.	72
Leucine	LC-MS	JHG-097	mg/100ml.	55
Tyrosine	LC-MS	JHG-097	mg/100ml.	39
Valine	LC-MS	JHG-097	mg/100ml.	25
Methionine	LC-MS	JHG-097	mg/100ml.	24
Histidine	LC-MS	JHG-097	mg/100ml.	19
Iso-Leucine	LC-MS	JHG-097	mg/100ml.	76
Cystine	LC-MS	JHG-097	mg/100ml.	45
Phenylalanine	LC-MS	JHG-097	mg/100ml.	11
Tryptophan	LC-MS	JHG-097	mg/100ml.	10

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Vitamin Profile

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Vitamin E	HPLC-PDA	JHG-088	mg/100ml.	13.500
Vitamin B1	HPLC-PDA	JHG-088	mg/100ml.	11.105
Vitamin B2 (Riboflavin)	HPLC-PDA	JHG-088	mg/100ml.	7.655
Vitamin B3 (Niacin)	HPLC-PDA	JHG-088	mg/100ml.	15.550
Vitamin B5 (Pantothenic acid)	HPLC-PDA	JHG-088	mg/100ml.	6.900
Vitamin B6 (Pyridoxine)	HPLC-PDA	JHG-088	mg/100ml.	4.765
Vitamin B12 (Cobalamine)	HPLC-PDA	JHG-088	mg/100ml.	4.415
Vitamin C	HPLC-PDA	JHG-088	mg/100ml.	9.15
Vitamin D	HPLC-PDA	JHG-088	mg/100ml.	104
Vitamin K	HPLC-PDA	JHG-088	mg/100ml.	55
Choline	HPLC-PDA	JHG-088	mg/100ml.	33.500

J.W. GOUGH



Technical Signatory.

Dated: 26th. March 2021