JHG ANALYTICAL SERVICES LIMITED

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TEST REPORT **REPORT NO.: 23-11-31404**

CHEMICAL/MICROBIOLOGICAL ANALYTICAL REPORT

Date of Report: 29th. November 2023.

Sample Nature of Product: ParaCan Lab.

Reference: THHG INC

Volume: 1 x 100 grams.

THHG INC
2665 Bayshore Dr Suite 220
Coconut Grove Florida
33133
Email: thhglmr@gmail.com

For the attention of : THHG INC

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Heavy Metals Analysis

Parameter/Test	Method of Analysis	Units of Measurement	Reported Results
Arsenic (Total)	ICP/IC-OES	mg/kg.	16.455
Cadmium as Cd.	ICP/IC-OES	mg/kg.	0.0037
Mercury as Hg.	Cold Vapour A.A.S.	mg/kg.	0.00008
Lead as Pb.	ICP-OES	mg/kg.	< 0.00002
Chromium as Cr.	ICP/IC-OES	mg/kg.	< 0.00002
Nickel as Ni.	ICP-OES	mg/kg.	< 0.00002
Silver as Ag.	ICP-OES	mg/kg.	< 0.000001
Aluminium as Al.	ICP-OES	mg/kg.	3.125
Antimony as Sb.	ICP-OES	mg/kg.	< 0.00005
Molybdenum as Mo.	ICP-OES	mg/kg.	< 0.00003
Vanadium as V.	ICP-OES	mg/kg.	< 0.0004
Tin as Sn.	ICP-OES	mg/kg.	< 0.0005

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Microbiological Profile Analysis

Parameter/Determinand	Type of Analysis	Units of Measurement	Reported Levels
Staph. aureus	Pour Plate Method	CFU/g.	< 10 CFU/g.
Salmonella spp.	Pour Plate Method	CFU/25g.	Absent/25g.
Yeasts/Moulds	Pour Plate Method	CFU/g.	< 100 CFU/g.
Bacillus cereus	Pour Plate Method	CFU/25g.	Absent/25g.
Total Viable Count TVC @ 20oC.	Pour Plate Method	CFU/g.	1,368 CFU/g.
Total Viable Count TVC @ 37oC.	Pour Plate Method	CFU/g.	1,775 CFU/g.
Camphylobacter spp.	Pour Plate Method	CFU/g.	Absent/g.
Clostridium perfringens	Pour Plate Method	CFU/g.	Absent/g.
Enterobactericeae	Pour Plate Method	CFU/g.	Absent/g.
Eschericia Coli	Pour Plate Method	CFU/g.	Absent/g.
Listeria Monocytogenes	PCR-Immunoassay Method	CFU/g.	Absent/g.
Total Coliforms	Pour Plate Method	CFU/g.	Absent/g.
Pseudomonas aeruginosa	PCR-Immunoassay Method	CFU/g.	Absent/g.

Saponins Profile Analysis

Saponin	Method of Analysis	Units	Reported Results
Triterpene Glycosides	RP-HPLC-MS-MS	g/100g.	0.424g.
Alkaloid Glycosides	RP-HPLC-MS-MS	g/100g.	0.317g.
Holothurin A.	RP-HPLC-MS-MS	g/100g.	0.520g.
Echinoside A.	RP-HPLC-MS-MS	g/100g.	0.226g.
Quinones	RP-HPLC-MS-MS	g/100g.	0.165g.
Oleonanes	RP-HPLC-MS-MS	g/100g.	0.445g.
Lanostanes	RP-HPLC-MS-MS	g/100g.	1.345g.

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Nutritional Analysis

Test	Units	Methodology	Method Ref.	Result per 100grams.	Result per gram.
Protein Content	g/100grams.	Kjeldahl Distil/Digestion	ISO 20483	9.655g.	0.096
Fat Content	g/100grams.	Soxhlet Distillation	ISO 659	1.400g.	0.014
Saturates Monunsaturates Polyunsaturates	g/100grams.	HPLC-PDA HPLC-PDA HPLC-PDA	ISO 5508 ISO 5508 ISO 5508	0.200g. 0.300g. 0.900g.	0.002 0.003 0.009
Omega-3	g/100grams.	LC-MS-MS	Internal Lab.	0.480g.	0.0048
Omega-6	g/100grams.	LC-MS-MS	Internal Lab.	0.900g.	0.009
Omega-9	g/100grams.	LC-MS-MS	Internal Lab.	0.020g.	0.0002
Carbohydrates Sugars	g/100grams.	HPLC-PDA HPLC-PDA	ISO 11292 ISO 11292	42.350g. 28.000g.	0.4235 0.280
Ash Content	g/100grams.	Muffle Furnace	ISO 735	11.400g.	0.1140
Fibre Content	g/100grams.	Digestion/Distillation	ISO 5498	5.125g.	0.0513
Salt Content	g/100grams.	ICP-OES	Internal Lab.	3.136	0.0314
Energy Kcal. Energy KJ.	Kcal/100g. KJ/100g.	Bomb Calorimetry. Bomb Calorimetry.	Internal Lab. Internal Lab.	288 Kcal. 1.210 KJ.	- -

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Bioactives Profile

Parameter	LOD	Method Type	Units	Results
Alginic acid	0.002%	HPLC-PDA	g/100g.	9.450
β-D-mannuronic acid				7.250
α-L-guluronic acid				2.200
Laminarin	0.002%	HPLC-PDA	g/100g.	2.800
1,3-β-D-glucopyranose				1.500
1,3-β-D-galactopyranose				1.300
Fucoidan	0.002%	HPLC-PDA	g/100g.	1.665
Sulphated Fucans				1.225
Sulphated Mannans				0.440
Mannitol	0.002%	HPLC-PDA	g/100g.	1.435

Sugars Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Carbohydrate	HPLC-PDA	ISO 11292	g/100g.	42.350
Sucrose				25.000
α-Glucose				5.350
β-Glucose				2.800
Fructose				3.000
Glucopyranose				1.500
Galactofuranose				0.700
Raffinose				3.100
Inositol				0.900

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Chemical Compositional

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Potassium as K.	ICP-OES	APHA 3500	g/100g.	2.160
Phosphorus as P.	ICP-OES	APHA 3500	g/100g.	0.290
Nitrogen as N. Organic (Ureic) Inorganic (Anionic)	Kjeldahl Distillation	APHA 3500	g/100g.	0.900 0.900 0.600
Iron as Fe.	ICP-OES	APHA 3500	mg/kg.	198
Elemental Sulphur S.	Elemental Analyser	In-House Method	mg/kg.	6.795
pH Value	Electrometric	In-House Method	pH Units	5.46
Organic Matter	Elemental Analyser	In-House Method	g/100g.	83.350
Specific Gravity	Densitometry	In-House Method	-	-
Fulvic acid Content	RP-HPLC-PDA	In-House Method	g/100g.	0.300

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Trace Minerals Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Magnesium as Mg.	ICP-OES	APHA 3500	grams/kg.	2.480
Calcium as Ca.	ICP-OES	APHA 3500	grams/kg.	6.465
Sodium as Na.	ICP-OES	APHA 3500	grams/kg.	7.270
Manganese as Mn.	ICP-OES	APHA 3500	mg/kg.	15.000
Zinc as Zn.	ICP-OES	APHA 3500	mg/kg.	29.125
Copper as Cu	ICP-OES	APHA 3500	mg/kg.	7.400
Iodine as I2	IC/ICP-OES	APHA 3500	mg/kg.	334
Selenium as Se	ICP-OES	APHA 3500	mg/kg.	4.900
Chromium as Cr	ICP-OES	APHA 3500	mg/kg.	< 0.002
Molybdenum as Mo.	ICP-OES	APHA 3500	mg/kg.	< 0.002
Boron as B.	ICP-OES	APHA 3500	mg/kg.	0.004

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Amino Acids Profile

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Glutamic acid	LC-MS	JHG-097	mg/100grams.	3,448
Aspartic acid	LC-MS	JHG-097	mg/100grams.	3,600
Arginine	LC-MS	JHG-097	mg/100grams.	1,217
Glycine	LC-MS	JHG-097	mg/100grams.	600
Alanine	LC-MS	JHG-097	mg/100grams.	1,414
Serine	LC-MS	JHG-097	mg/100grams.	390
Proline	LC-MS	JHG-097	mg/100grams.	325
Leucine	LC-MS	JHG-097	mg/100grams.	489
Tyrosine	LC-MS	JHG-097	mg/100grams.	372
Valine	LC-MS	JHG-097	mg/100grams.	279
Methionine	LC-MS	JHG-097	mg/100grams.	335
Histidine	LC-MS	JHG-097	mg/100grams.	409
Iso-Leucine	LC-MS	JHG-097	mg/100grams.	561
Cystine	LC-MS	JHG-097	mg/100grams.	800
Phenylalanine	LC-MS	JHG-097	mg/100grams.	446
Tryptophan	LC-MS	JHG-097	mg/100grams.	166

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Vitamin Profile

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Vitamin E	HPLC-PDA	JHG-088	mg/100g.	2.885
Vitamin B1	HPLC-PDA	JHG-088	mg/100g.	1.500
Vitamin B2 (Riboflavin)	HPLC-PDA	JHG-088	mg/100g.	11.105
Vitamin B3 (Niacin)	HPLC-PDA	JHG-088	mg/100g.	4
Vitamin B5 (Pantothenic acid)	HPLC-PDA	JHG-088	mg/100g.	0.226
Vitamin B6 (Pyridoxine)	HPLC-PDA	JHG-088	mg/100g.	0.500
Vitamin B12 (Cobalamine)	HPLC-PDA	JHG-088	µg/100grams.	0.500
Vitamin C	HPLC-PDA	JHG-088	mg/100grams.	126
Vitamin D	HPLC-PDA	JHG-088	IU/100grams.	353
Vitamin K	HPLC-PDA	JHG-088	µg/100grams.	227
Choline	HPLC-PDA	JHG-088	mg/100grams.	185

Plant Hormones Profile

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Betaines Content	HPLC-PDA	JHG-088	mg/kg.	123
Auxins Content	HPLC-PDA	JHG-088	mg/kg.	31
Gibberellins Content	HPLC-PDA	JHG-088	mg/kg.	19
Cytokinins Content	HPLC-PDA	JHG-088	mg/kg.	23
Strigolactones Content	HPLC-PDA	JHG-088	mg/kg.	0.025
Brassinosteroids Content	HPLC-PDA	JHG-088	mg/kg.	< 0.002

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Flavonoids Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Quercetin	SPME-HPLC	In-House Method	mg/kg.	21.675
Apigenin	SPME-HPLC	In-House Method	mg/kg.	19.300
Flavanone	SPME-HPLC	In-House Method	mg/kg.	12.125
Caffeic acid	SPME-HPLC	In-House Method	mg/kg.	6.735
Catechin	SPME-HPLC	In-House Method	mg/kg.	15.000
Gallic acid	SPME-HPLC	In-House Method	mg/kg.	4.100

Phlorotannins Analysis

Parameter	Method of Analysis	Method Reference	Units	Reported Levels
Phloroglucinol	SPME-HPLC	In-House Method	mg/kg.	12.345
Eckol	SPME-HPLC	In-House Method	mg/kg.	10
Dieckol	SPME-HPLC	In-House Method	mg/kg.	5.000
Phlorofucofuroeckol	SPME-HPLC	In-House Method	mg/kg.	7.335

All test methods were performed in accordance with the requirements of ISO: IEC 17025.

The test results relate only to the product listed in this report.

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SHELF-LIFE TESTING PROGRAMME

Shelf-Life Testing was performed to test the Bacterial and Chemical integrity of the finished product. Demonstrating both the absence of Pathogenic bacteria and undesirable Chemical agents in the product are the safest ways of avoiding consumer cases of illness. The finished report may be used as an excellent sales tool as it indicates that the product is shelf stable and free of Pathogenic bacteria for the estimated time.

TESTING REGIME

An initial sample was tested for the following Microbiological Series when the samples were first received. After Microbiological Analysis, the sample was dispatched to the Chemistry Laboratory, where it underwent a series of Chemical contaminant tests, as well as a suite of Physical and Sensory assessments. The remaining samples underwent the same testing regime at agreed time points and the testing programme continued until the product reached the end of its Shelf-Life.

Microbiological	Chemical	Physical	Sensory
Total Aerobic Count @ 22o C	*Hydroxyl Value*	*Water Activity*	*Smell*
Total Aerobic Count @ 37o C	*Peroxide Value*	*pH Value*	*Taste*
Esch. Coli	*Free Fatty Acid*	*Conductivity*	*Texture*
Salmonella spp.	*TBA Rancidity*		*Colour*
Enterobacteriaceae	*TOTOX Value*		
Coagulase (+) Staphylococcus			
Listeria Monocytogenes			
Clostridium Perfringens			
Campylobacter spp.			
Pseudomonas spp.			

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STABILITY TEST CONDITIONS

METHODOLOGY:	ACCELERATED SHELF-LIFE (Ambient)
DATE OF COMMENCEMENT OF TESTING:	11th. November 2023
DATE OF CONCLUSION OF TESTING:	24th. November 2023
DATE OF REPORT:	29th. November 2023
DATA ANALYSIS:	EXCEL 2007 Spreadsheet
TEMPERATURE OF TESTING:	Ambient Temperature.
SAMPLE PREPARATION:	No Preparation.
STABILITY METHOD:	Micro/Rancidity/Chemical
DATE OF SAMPLE:	11th. November 2023
PRODUCT CODE:	THHG INC

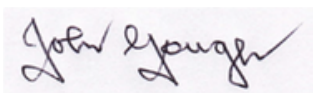
SHELF-LIFE CERTIFICATE FOR

ParaCan Lab

This is to certify that the product

'ParaCan Lab'

when stored under recommended Ambient conditions and, if the packaging is unopened and undamaged, is guaranteed to have a Shelf-Life of 20 months from Date of Production.

Signed: __  _____ Technical Director

JHG Analytical Services Limited

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Republic of Ireland.

Dated: 29th. November 2023