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Report Number:	**2668053-0**
Report Date:	**24-Oct-2019**
Report Status:	**Final**

Certificate of Analysis

Mid-American Growers, Inc

Sample Name:	**Cherry**	**Eurofins Sample:**	**8922676**
Project ID	MID_AME_GR-20191015-0002	**Receipt Date**	15-Oct-2019
PO Number	CVD	**Receipt Condition**	Ambient temperature
Lot Number	0003	**Login Date**	15-Oct-2019
Sample Serving Size	23 g	**Date Started**	15-Oct-2019

Analysis	Result
Industrial Hemp Cannabinoid Profile	
CBDVA	0.0556 %
CBDV	<0.00500 %
CBDA	9.46 %
CBGA	0.0876 %
CBG	0.0305 %
CBD	1.00 %
CBN	<0.00500 %
CBC	0.106 %
Total CBD (CBD + (CBDA x 0.877))	9.30 %
Terpenes *	
(-)-alpha-Bisabolol	670 ppm
Camphene	23 ppm
(1S)-(+)-3-Carene	<10 ppm
beta-Caryophyllene	3600 ppm
p-Cymene	<10 ppm
Eucalyptol	19 ppm
alpha-Humulene (alpha-Caryophyllene)	610 ppm
(-)-Isopulegol	<10 ppm
(R)-(+)-Limonene	410 ppm
Linalool	23 ppm
beta-Myrcene	4800 ppm
(E)-b-Ocimene	<6.0 ppm
(Z)-b-Ocimene	<3.0 ppm
alpha-Pinene	88 ppm
beta-Pinene	120 ppm
alpha-Terpinene	<10 ppm
gamma-Terpinene	<10 ppm
Terpinolene	<10 ppm
Moisture by M100_T100	
Moisture	11.0 %

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Analysis	Result
Metals Analysis by ICP-MS	
Arsenic	0.0885 ppm
Cadmium	0.0892 ppm
Lead	0.205 ppm
Mercury	<0.00992 ppm
Mycotoxins in Raw Materials	
Aflatoxin B1	<0.500 ppb
Aflatoxin B2	<0.500 ppb
Aflatoxin G1	<0.500 ppb
Aflatoxin G2	<0.500 ppb
Ochratoxin A	<1.00 ppb
Multi-Residue Analysis for hemp products - 60+ compounds	
Matrix Type - To Determine Limit of Quantification (LOQ)	Hemp Dried Plant Materials
Abamectin	<0.10 mg/kg
Aldicarb	<0.05 mg/kg
Aldicarb sulfone (Aldoxycarb)	<0.05 mg/kg
Aldicarb sulfoxide	<0.05 mg/kg
Azoxystrobin	<0.05 mg/kg
Bifenazate	<0.05 mg/kg
Bifenthrin	<0.05 mg/kg
Carbaryl	<0.05 mg/kg
Carbofuran	<0.05 mg/kg
Carbofuran-3-hydroxy-	<0.05 mg/kg
Chlorantraniliprole	<0.05 mg/kg
Chlordane, cis-	<0.05 mg/kg
Chlordane, trans-	<0.05 mg/kg
Chlorfenapyr	0.070 mg/kg
Chlorpyrifos	0.15 mg/kg
Coumaphos	<0.05 mg/kg
Cyfluthrin	<0.05 mg/kg
Cypermethrin	<0.05 mg/kg

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Analysis	Result
Multi-Residue Analysis for hemp products - 60+ compounds	
Cyproconazole (2 diastereoisomers)	<0.05 mg/kg
Cyprodinil	<0.05 mg/kg
Dichlorvos	<0.05 mg/kg
Diclobutrazol	<0.05 mg/kg
Dipropetryn	<0.05 mg/kg
Disulfoton	<0.05 mg/kg
Endosulfan I (alpha-isomer)	<0.05 mg/kg
Endosulfan II (beta-isomer)	<0.05 mg/kg
Endosulfan sulfate	<0.05 mg/kg
Epoxiconazole	<0.05 mg/kg
Ethiofencarb	<0.05 mg/kg
Etofenprox	<0.05 mg/kg
Etoxazole	<0.05 mg/kg
Fenoxycarb	<0.05 mg/kg
Fenpropathrin	<0.05 mg/kg
Fenvalerate/Esfenvalerate (sum of isomers)	<0.05 mg/kg
Fipronil	<0.05 mg/kg
Fipronil desulfinyl	<0.05 mg/kg
Fipronil sulfone	<0.05 mg/kg
Imazalil	<0.05 mg/kg
Imidacloprid	<0.05 mg/kg
Malathion	<0.05 mg/kg
Methiocarb	<0.05 mg/kg
Methiocarb sulfone	<0.05 mg/kg
Methiocarb sulfoxide	<0.05 mg/kg
Methomyl	<0.05 mg/kg
Metolachlor	<0.05 mg/kg
Mevinphos (E- and Z-isomers)	<0.05 mg/kg
Myclobutanil	<0.05 mg/kg
Naled (Dibrom)	<0.05 mg/kg

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Analysis	Result
Multi-Residue Analysis for hemp products - 60+ compounds	
Paclobutrazol	<0.05 mg/kg
Permethrin (sum of isomers)	<0.05 mg/kg
Propoxur	<0.05 mg/kg
Pyrethrum (total)	<0.50 mg/kg
Spinetoram (spinosyns J and L)	<0.05 mg/kg
Spinosad (spinosyns A and D)	<0.05 mg/kg
Spirodiclofen	<0.05 mg/kg
Spiromesifen	<0.05 mg/kg
Spiromesifen enol	non-analyzable
Spirotetramat	<0.05 mg/kg
Spiroxamine (2 diastereoisomers)	<0.05 mg/kg
Tebuconazole	<0.05 mg/kg
Thiabendazole	<0.05 mg/kg
Thiabendazole-5-hydroxy-	<0.05 mg/kg
Thiacloprid	<0.05 mg/kg
Trifloxystrobin	<0.05 mg/kg

Analysis	LOQ	Limit	Result	Pass/Fail
Residual Solvents - Class 3 *				
1-Butanol	200 ppm	5000 ppm	<200 ppm	Pass
1-Pentanol	200 ppm	5000 ppm	<200 ppm	Pass
1-Propanol	200 ppm	5000 ppm	<200 ppm	Pass
2-Butanol	200 ppm	5000 ppm	<200 ppm	Pass
Methylethylketone	200 ppm	5000 ppm	<200 ppm	Pass
3-Methyl-1-butanol	200 ppm	5000 ppm	<200 ppm	Pass
Acetic Acid Butyl Ester	200 ppm	5000 ppm	<200 ppm	Pass
Acetone	200 ppm	5000 ppm	<200 ppm	Pass
Anisole	200 ppm	5000 ppm	<200 ppm	Pass
Diethyl Ether	200 ppm	5000 ppm	<200 ppm	Pass
Ethanol	200 ppm	5000 ppm	<200 ppm	Pass
Ethyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass

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Analysis	LOQ	Limit	Result	Pass/Fail
Residual Solvents - Class 3 *				
Ethyl Formate	500 ppm	5000 ppm	<500 ppm	Pass
2-Methyl-1-propanol	200 ppm	5000 ppm	<200 ppm	Pass
Isobutyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
2-Propanol	200 ppm	5000 ppm	<200 ppm	Pass
Isopropyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Methyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Methylisobutylketone	200 ppm	5000 ppm	<200 ppm	Pass
tert-Butylmethyl Ether	200 ppm	5000 ppm	<200 ppm	Pass
n-Heptane	200 ppm	5000 ppm	<200 ppm	Pass
n-Pentane	200 ppm	5000 ppm	<200 ppm	Pass
Propyl Acetate	200 ppm	5000 ppm	<200 ppm	Pass
Total Class 3 Residual Solvents	5000 ppm	5000 ppm	<5000 ppm	Pass

Method References	Testing Location

Industrial Hemp Cannabinoid Profile (IHCBD_S) — **Food Integrity Innovation-Boulder**

Official Methods of Analysis, Method 2018.11, AOAC INTERNATIONAL, (Modified). Lukas Vaclavik, Frantisek Benes, Alex Krmela, Veronika Svobodova, Jana Hajsolva and Katerina Mastovska, "Quantification of Cannabinoids in Cannabis Dried Plant Materials, Concentrates, and Oils Liquid Chromatography-Diode Array Detection Technique with Optional Mass Spectrometric Detection, " First Action Method, Journal of AOAC International, Future Issue

Metals Analysis by ICP-MS (ICP_MS_B_S) — **Food Integrity Innovation-Boulder**

Methods for the Determination of Metals in Environmental Standards - Supplement 1, EPA-600/R-94-111, May 1994.
"Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Mass Spectrometry", USEPA Method 200.8, Revision 5.1, EMMC Version.

Moisture by M100_T100 (M100T100_S) — **Food Integrity Innovation-Madison**

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 925.09 and 926.08, AOAC INTERNATIONAL, Gaithersburg, MD, USA,(2005). (Modified).

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Method References	Testing Location

Multi-Residue Analysis for hemp products - 60+ compounds (PEST_HEMP) — **Food Integ. Innovation-Greenfield**

Official Methods of Analysis, *AOAC Official Method 2007.01*, Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate, AOAC INTERNATIONAL (modified).

CEN Standard Method EN 15662: Food of plant origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE - QuEChERS method.

List of the tested pesticides and their limits of quantification (LOQs) are available upon request.

Mycotoxins in Raw Materials (MYCO_REG_S) — **Food Integrity Innovation-Madison**

Varga, E., Glauner, T., Koppen, R., Mayer, K., Sulyok, M., Schumacher, R., Krska, R. and Berthiller, F., "Stable isotope dilution assay for the accurate determination of mycotoxins in maize by UHPLC-MS/MS," Analytical and BioAnalytical Chemistry, 402:2675-2686 (2012).

Residual Solvents - Class 3 (USPR_S) — **Food Integrity Innovation-Madison**

United States Pharmacopeia, 38nd Rev. - National Formulary 33th Ed., Method <467>, USP Convention, Inc., Rockville, MD (2015). (Modified).

Terpenes (TERPENES_S) — **Food Integrity Innovation-Madison**

Internally Developed Method

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Testing Location(s)	Released on Behalf of Eurofins by
Food Integrity Innovation-Boulder Eurofins Food Chemistry Testing US, Inc. 2830 Wilderness Pl Boulder CO 80301 800-675-8375	**Ian Laessig - Manager** AT-1816
Food Integ. Innovation-Greenfield Eurofins Food Chemistry Testing US, Inc. 671 S. Meridian Road Greenfield IN 46140 800-675-8375	**Timothy McIntyre - Manager** 2918.06
Food Integrity Innovation-Madison Eurofins Food Chemistry Testing US, Inc. 3301 Kinsman Blvd Madison WI 53704 800-675-8375	**Edward Ladwig - Director** 2918.01

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