

SUMMARY OF ANALYSIS (SAMPLE ID: SA34244)

Testing Location: Arkansas 232 S. Broadview St. Greenbrier, AR 72058 License: ADH 113	Customer ID: 2161 River Valley Relief Cultivation 5601 Old Greenwood Rd Suite C Fort Smith, AR 72903 License: 00065C	Order ID: OR10284 Lot Number: M00065C13135829043 Production Run: 6020H20221201O433	Sample Type: Primary Matrix: Flower Mass: 10g Date Collected: 01/30/2023 Date Received: 01/30/2023 Date Completed: 02/05/2023
Cultivar (Strain) or Sample Description: Orange 43			

*This page is simply a summary of the analysis performed. For analytical details, please consult the individual Certificate(s) of Analysis for each of the specific test(s) performed. All contaminant action levels are referenced from the State of Arkansas MMJ testing guidelines.

Moisture Content (%)

11.7

Water Activity (aw)

0.472 @ 23.6°C

PASS/FAIL

PASS

Moisture content/water activity action levels are referenced from the State of Arkansas MMJ testing guidelines.

Moisture content levels less than 15% are recommended but the sample does not fail. Water activity levels must be less than 0.65aw.

Cannabinoids (Top 3)	(%)	mg/g
THCA	24.7	247
Δ9-THC	1.15	11.5
CBGA	1.06	10.6
TOTAL CBD	-	-
TOTAL THC	22.8	228
TOTAL CANNABINOIDS	27.4	274

Terpenes (Top 5)	(%)	µg/g
Terpinolene	0.552	5520
β-Myrcene	0.339	3390
β-Caryophyllene	0.153	1530
α-Bisabolol	0.148	1480
d-Limonene	0.127	1270
TOTAL TERPENES	1.54	15400

Contaminants	PASS/FAIL
Heavy Metals:	PASS
Microbiology:	PASS
Pesticides:	PASS

Sample Picture Upon Receipt



Scan the QR code to verify results.

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Thank you!

REPORT OF LABORATORY ANALYSIS

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Kyle W. Felling
Kyle W. Felling, Ph.D.
Laboratory Director

www.FASTLaboratories.com



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA34244)

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CANNABINOID (POTENCY) PROFILE (SOP: SOP-CANN-001)

Analysis Date/Time: 2/3/2023 1159 **Method:** HPLC/DAD **Moisture Content (%):** 11.7
Analyst: PW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.472 @ 23.55°C

<u>Cannabinoid</u>	<u>Result (%)</u>	<u>UM (+/-%)</u>	<u>Result (mg/g)</u>	<u>LOQ (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Serving (mg)</u>	<u>Per Unit (mg)</u>
CBC	-	-	-	0.527	-	-	-
CBCA	-	-	-	1.64	-	-	-
CBD	-	-	-	3.72	-	-	-
CBDA	-	-	-	1.37	-	-	-
CBDV	-	-	-	0.596	-	-	-
CBDVA	-	-	-	1.59	-	-	-
CBG	-	-	-	2.41	-	-	-
CBGA	1.06	0.0957	10.6	1.73	-	10.6	10.6
CBL	-	-	-	2.79	-	-	-
CBN	-	-	-	1.28	-	-	-
CBNA	-	-	-	1.38	-	-	-
Δ9-THC	1.15	0.104	11.5	1.53	-	11.5	11.5
Δ8-THC	-	-	-	2.39	-	-	-
THCA	24.7	2.23	247	0.833	-	247	247
THCV	-	-	-	1.99	-	-	-
THCVA	0.435	0.0130	4.35	0.636	-	4.35	4.35
TOTAL	27.4	2.44	274			274	274
TOTAL CBC	-	-	-			-	-
TOTAL CBD	-	-	-			-	-
TOTAL CBDV	-	-	-			-	-
TOTAL CBG	0.934	0.0840	9.34			9.34	9.34
TOTAL CBN	-	-	-			-	-
TOTAL THC	22.8	2.06	228			228	228
TOTAL THC V	0.377	0.0113	3.77			3.77	3.77



SERVING MASS (g): 1.00
SERVINGS/UNIT: 1

"-" Not detected above LOD.

Deviations from standard operating procedure:
None

Recoveries for all analyte standards: 90-110%
Replicate Uncertainties: <5% RSD, <20% RPD
Sample/Reagent Blanks: <RL for all analytes

Values for plant matter are adjusted for moisture content.

Total CBC = (CBCA x 0.877) + CBC
 Total CBD = (CBDA x 0.877) + CBD
 Total CBDV = (CBDVA x 0.867) + CBDV
 Total CBG = (CBGA x 0.878) + CBG
 Total CBN = (CBNA x 0.876) + CBN
 Total THC = (THCA x 0.877) + Δ9-THC
 Total THC V = (THCVA x 0.867) + THC V

Percentage results are reported by mass.

mg/g results are reported as mass component per mass material.

* CBCA, CBDVA, CBL, CBNA, and THCVA are in process of being added to our accreditation scope.

Abbreviations: DAD - Diode Array Detector, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation, DET - Detected (less than LOQ), LOD - Limit of Detection, LOQ - Limit of Quantitation, UM - Measurement Uncertainty

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TERPENOID PROFILE

Analysis Date/Time: 02/04/2023 1003
Analyst: KF

Method: GC/MS
Instrument: Agilent 7890/5975

Deviations from SOP:
None

<u>Terpene</u>	<u>Result (µg/g)</u>	<u>Result (%)</u>	
α-Bisabolol	1480	0.148	■
Camphene	-	-	
δ-3-Carene	-	-	
β-Caryophyllene	1530	0.153	■
Caryophyllene oxide	-	-	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	-	-	
α-Humulene	296	0.0296	■
Isopulegol	-	-	
d-Limonene	1270	0.127	■
Linalool	501	0.0501	■
β-Myrcene	3390	0.339	■
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	613	0.0613	■
α-Pinene	164	0.0164	■
β-Pinene	685	0.0685	■
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	5520	0.552	■
TOTAL	15400	1.54	



Abbreviations: GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit

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"-" Not detected above RL.

Reporting Limit (µg/g): 44.7

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PESTICIDES PROFILE (SOP: SOP-PEST-001)

Analysis Date/Time: 02/04/2023 0901
Analyst: KF

Method: LC/MS/MS
Instrument: Shimadzu LC-8050

Deviations from SOP:
None

Pesticide	Result (µg/g)	LOD (µg/g)	LOQ (µg/g)	Action Level (µg/g)	Pesticide	Result (µg/g)	LOD (µg/g)	LOQ (µg/g)	Action Level (µg/g)
Abamectin (71751-41-2)	-	0.0447	0.358	0.5	Kresoxim-methyl (143390-89-0)	-	0.0447	0.358	0.4
Acephate (30560-19-1)	-	0.0447	0.358	0.4	Malathion (121-75-5)	-	0.0447	0.358	0.2
Acetaminocyl (57960-19-7)	-	0.0447	0.358	2	Metalaxyl (57837-19-1)	-	0.0447	0.358	0.2
Acetamiprid (135410-20-7)	-	0.0447	0.358	0.2	Methiocarb (2032-65-7)	-	0.0447	0.358	0.2
Aldicarb (116-06-3)	-	0.0447	0.358	0.4	Methomyl (16752-77-5)	-	0.0447	0.358	0.4
Azoxystrobin (131860-33-8)	-	0.0447	0.358	0.2	Methyl parathion (298-0-0)	-	0.0447	0.358	0.2
Bifenazate (149877-41-8)	-	0.0447	0.358	0.2	MGK 264 (113-48-4)	-	0.0447	0.358	0.2
Bifenthrin (82657-04-3)	-	0.0447	0.358	0.2	Myclobutanil (88671-89-0)	-	0.0447	0.358	0.2
Boscalid (188425-85-6)	-	0.0447	0.358	0.4	Naled (300-76-5)	-	0.0447	0.358	0.5
Carbaryl (63-25-2)	-	0.0447	0.358	0.2	Oxamyl (23135-22-0)	-	0.0447	0.358	1
Carbofuran (1563-66-2)	-	0.0447	0.358	0.2	Pacllobutrazol (76738-62-0)	-	0.0447	0.358	0.4
Chlorantraniliprole (800008-45-7)	-	0.0447	0.358	0.2	Permethrins (52645-53-1)	-	0.0447	0.358	0.2
Chlorfenapyr (122453-73-0)	-	0.0447	0.358	1	Phosmet (732-11-6)	-	0.0447	0.358	0.2
Chlorpyrifos (2921-88-2)	-	0.0447	0.358	0.2	Piperonyl butoxide (51-03-6)	-	0.0447	0.358	2
Clofentezine (74115-24-5)	-	0.0447	0.358	0.2	Prallethrins (2331-36-9)	-	0.0447	0.358	0.2
Cyfluthrin (68359-37-5)	-	0.0447	0.358	1	Propiconazole (60207-90-1))	-	0.0447	0.358	0.4
Cypermethrin (52315-07-8)	-	0.0447	0.358	1	Propoxur (114-26-1)	-	0.0447	0.358	0.2
Daminozide (1596-84-5)	-	0.0447	0.358	1	Pyrethrins (8003-34-7)	-	0.0447	0.358	1
DDVP (62-73-7)	-	0.0447	0.358	0.1	Pyridaben (96489-71-3)	-	0.0447	0.358	0.2
Diazinon (333-41-5)	-	0.0447	0.358	0.2	Spinosad (168316-95-8)	-	0.0447	0.358	0.2
Dimethoate (60-51-5)	-	0.0447	0.358	0.2	Spiromesifen (283594-90-1)	-	0.0447	0.358	0.2
Ethoprophos (13194-48-4)	-	0.0447	0.358	0.2	Spirotetramat (203313-25-1)	-	0.0447	0.358	0.2
Etofenprox (80844-07-1)	-	0.0447	0.358	0.4	Spiroxamine (118134-30-8)	-	0.0447	0.358	0.4
Etoxazole (153233-91-1)	-	0.0447	0.358	0.2	Tebuconazole (80443-41-0)	-	0.0447	0.358	0.4
Fenoxycarb (72490-01-8)	-	0.0447	0.358	0.2	Thiacloprid (111988-49-9)	-	0.0447	0.358	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.0447	0.358	0.4	Thiamethoxam (153719-23-4)	-	0.0447	0.358	0.2
Fipronil (120068-37-3)	-	0.0447	0.358	0.4	Trifloxystrobin (141517-21-7)	-	0.0447	0.358	0.2
Fonicamid (158062-67-0)	-	0.0447	0.358	1					
Fludioxinil (131341-86-1)	-	0.0447	0.358	0.4					
Hexythiazox (78587-05-0)	-	0.0447	0.358	1					
Imazalil (35554-44-0)	-	0.0447	0.358	0.2					
Imidacloprid (138261-41-3)	-	0.0447	0.358	0.4					



Color Key

RESULT < AL
RESULT > AL

"DET" detected less than LOQ
"-." not detected above LOD
Permethrins measured as the cumulative residue of the *cis*- and *trans*- permethrin isomers.
Pyrethrins measured as the cumulative residue of the pyrethrin I, cinerin I, and jasmolin I isomers.
Action levels are referenced from the State of Arkansas MMJ testing guidelines.
A value of "-" for the action level means that analyte is not currently regulated by the regulations referenced above.
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Abbreviations: LC - Liquid Chromatography, MS - Mass Spectrometry, RL - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services, LOD - Limit of Detection, LOQ - Limit of Quantification

Pesticide	Synonym(s)	Pesticide	Synonym(s)	Pesticide	Synonym(s)
Cyfluthrin	Baythroid	Myclobutanil	Sythane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

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HEAVY METAL PROFILE (SOP: SOP-ICP-200.7)

Analysis Date/Time: 02/04/2023 0906 (ICP/OES)	Method: ICP/OES	Deviations from SOP:
Analysis Date/Time: - (DMA)	Instrument: Agilent 720-ES	None
Analyst: KF		

<u>Heavy Metal</u>	<u>Result (µg/kg)</u>	<u>LOD (µg/kg)</u>	<u>LOQ (µg/kg)</u>	<u>Action Level (µg/kg)</u>
Arsenic (As)	-	59.3	93.8	200
Cadmium (Cd)	-	59.3	93.8	200
Lead (Pb)	-	59.3	93.8	500
Mercury (Hg)	-	59.3	93.8	100



Abbreviations: ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, DMA - Direct Mercury Analyzer, RL - Reporting Limit, AL - Action Level, LOD - Limit of Detection, LOQ - Limit of Quantitation

Color Key

RESULT < AL
RESULT > AL

"DET" detected less than LOQ

"-" not detected above LOD

Action levels for heavy metals are referenced from the State of Arkansas MMJ testing guidelines.

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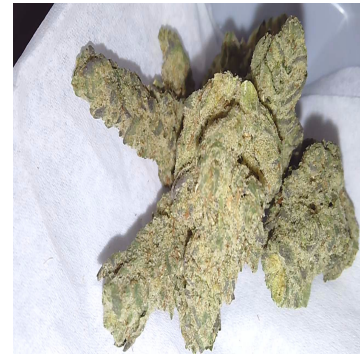
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MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)

Analysis Date/Time: 20230203 1046 **Method:** Hardy Diagnostics CompactDry **Deviations from SOP:**
Analyst: PW **Instrument:** Thermo Incubator None

Bacteria/Microbe	Result (CFU/g)	Action Level (CFU/g)
Aerobic Plate Count	NT	-
Coliforms, Total	Absent	1
Escherichia Coli (E. Coli)	Absent	100
Mold/Yeast	NT	-
Pseudomonas aeruginosa	NT	1
Salmonella spp.	NT	-
Staphylococcus aureus	NT	-



Abbreviations: EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level, TNTC - Too Numerous To Count, NT - Not Tested
Absent - Not Detected Above RL, Present - Detected Above RL

Color Key

RESULT < AL

RESULT > AL

Reporting Limit (CFU/g)
1

Action levels for microbiology are referenced from the State of Arkansas MMJ testing guidelines.
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