

## SUMMARY OF ANALYSIS (SAMPLE ID: SA27454)

<b>Testing Location:</b> OKC 3680 E. I-240 Service Rd. Oklahoma City, OK 73135 License: LAAA-4Y4X-Z72Z	<b>Customer ID:</b> 1648 Red Dirt Sungrown P.O. Box 1399 Guthrie, OK 73044 License: GAAA-41RN-M7KD	<b>Order ID:</b> OR8548 <b>Lot Number:</b> WC052005 <b>Batch Number:</b> Not Entered	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 5g <b>Date Collected:</b> 05/21/2020 <b>Date Received:</b> 05/21/2020
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**Cultivar (Strain) or Sample Description:** White chocolate **Date Completed:** 05/26/2020

\*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.

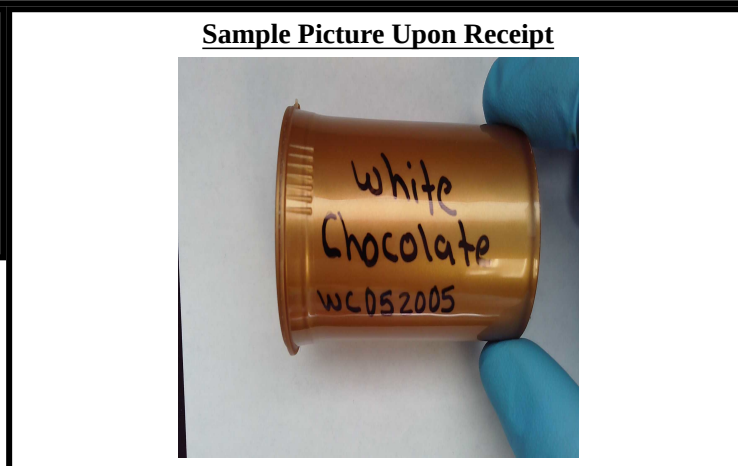
\*For Oklahoma, with the new OMMA rules to be effective April 1, 2020, limits on moisture are proposed at 15% and water activity at 0.65aw.

<b>Moisture Content (%)</b> 12.4	<b>PASS/FAIL</b> <b>PASS</b>	<b>Water Activity (aw)</b> 0.45 @ 26.4°C	<b>PASS/FAIL</b> <b>PASS</b>
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<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	20.8	208
CBGa	0.536	5
Δ9-THC	0.384	4
TOTAL CBD	0.0704	0.704
TOTAL THC	18.6	186
TOTAL CANNABINOIDS	22	220

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>µg/g</u>
β-Caryophyllene	0.821	8207
α-Humulene	0.298	2976
α-Bisabolol	0.199	1986
d-Limonene	0.171	1710
β-Myrcene	0.080	801
TOTAL TERPENES	1.94	19351

<u>Contaminants</u>	<u>PASS/FAIL</u>
Heavy Metals:	<b>PASS</b>
Microbiology:	<b>PASS</b>
Mycotoxins:	<b>PASS</b>
Pesticides:	<b>PASS</b>
Visual Inspection:	<b>PASS</b>



Scan the QR code to verify results.

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### REPORT OF LABORATORY ANALYSIS

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



## CERTIFICATE OF ANALYSIS (SAMPLE ID: SA27454)

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**Cultivar (Strain) or Sample Description:** White chocolate **Date Completed:** 05/26/2020

### CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 05/21/2020 1556      **Method:** HPLC/DAD      **Moisture Content (%):** 12.4  
**Analyst:** WW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.4534 @ 26.4Å°C

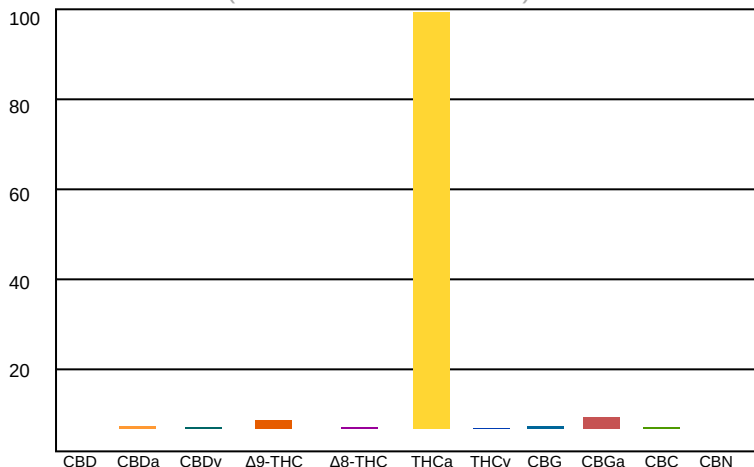
<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>Reporting Limit (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Unit (mg)</u>
CBD	0.0057	0.057	0.0497	-	0.057
CBDa	0.0738	0.738	0.0497	-	0.738
CBDv	0.0184	0.184	0.0497	-	0.184
Δ9-THC	0.384	3.84	0.0497	-	4
Δ8-THC	0.0271	0.271	0.0497	-	0.271
THCa	20.8	208	0.0497	-	208
THCv	0.0154	0.154	0.0497	-	0.154
CBC	0.0549	0.549	0.0497	-	0.549
CBG	0.102	1.02	0.0497	-	1.02
CBGa	0.536	5.36	0.0497	-	5
CBN	-	-	0.0497	-	-
<b>TOTAL</b>	<b>22</b>	<b>220</b>		<b>-</b>	<b>220</b>
<b>TOTAL THC</b>	<b>18.6</b>	<b>186</b>		<b>-</b>	<b>186</b>
<b>TOTAL CBD</b>	<b>0.0704</b>	<b>0.704</b>		<b>-</b>	<b>0.704</b>



**UNIT MASS (g):** 1

"-" Not detected above RL.

### Cannabinoid Distribution (% of Total Cannabinoids)



*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 THC = (THCa x 0.877) + Δ9-THC  
 Total CBD = (CBDa x 0.877) + CBD

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

*Abbreviations:* UV - Ultraviolet, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation

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<b>Cultivar (Strain) or Sample Description:</b> White chocolate			<b>Date Completed:</b> 05/26/2020

## TERPENOID PROFILE

**Analysis Date/Time:** 05/21/2020 1556      **Method:** HS/GC/FID (Internal Method-002)      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Agilent 6890      None

<u>Terpene</u>	<u>Result (µg/g)</u>	<u>Result (%)</u>	
α-Bisabolol	1986	0.199	■
Camphene	63	0.00634	
δ-3-Carene	23	0.00231	
β-Caryophyllene	8207	0.821	■
Caryophyllene oxide	316	0.0316	
p-Cymene	36	0.00364	
Eucalyptol	-	-	
Geraniol	101	0.0101	
Guaiol	175	0.0175	
α-Humulene	2976	0.298	■
Isopulegol	78	0.00781	
d-Limonene	1710	0.171	■
Linalool	641	0.0641	
β-Myrcene	801	0.0801	■
cis-Nerolidol	-	-	
trans-Nerolidol	426	0.0426	
α-Ocimene	75	0.00751	
β-Ocimene	476	0.0476	■
α-Pinene	438	0.0438	
β-Pinene	432	0.0432	■
α-Terpinene	36	0.00364	
γ-Terpinene	40	0.00399	
Terpinolene	312	0.0312	
<b>TOTAL</b>	<b>19351</b>	<b>1.94</b>	



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

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"-" Not detected above RL.

**Reporting Limit (µg/g): 1.99**

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**Cultivar (Strain) or Sample Description:** White chocolate **Date Completed:** 05/26/2020

**PESTICIDES PROFILE**

**Analysis Date/Time:** 05/21/2020 1556  
**Analyst:** DJ

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Pesticide</u>	<u>Result (µg/g)</u>	<u>Action Level (µg/g)</u>
Abamectin (71751-41-2)	-	0.5
Azoxystrobin (131860-33-8)	-	0.5
Bifenazate* (149877-41-8)	-	0.5
Etoazazole (153233-91-1)	-	0.5
Imazalil (35554-44-0)	-	0.5
Imidacloprid (138261-41-3)	-	0.5
Malathion (121-75-5)	-	0.5
Myclobutanil (88671-89-0)	-	0.5
Permethrins* (52645-53-1)	-	0.5
Spinosad A (168316-95-8)	-	0.5
Spinosad D (168316-95-8)	-	0.5
Spiromesifen (283594-90-1)	-	0.5
Spirotetramat (203313-25-1)	-	0.5
Tebuconazole (80443-41-0)	-	0.5

Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL



**Reporting Limit (µg/g)**  
1/2 of AL

"-" not detected above reporting limit

"\*" analyzed by GC/MS (all others analyzed by LC/MS/MS)

Permethrins measured as the cumulative residue of the *cis*- and *trans*-permethrin isomers.

**Abbreviations:** LC - Liquid Chromatography, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services

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

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### MYCOTOXIN PROFILE

**Analysis Date/Time:** 05/21/2020 1556

**Analyst:** DJ

**Method:** LC/MS/MS

**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**

None

<u>Mycotoxin</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (µg/kg)
Aflatoxin B1	-	20
Aflatoxin B2	-	20
Aflatoxin G1	-	20
Aflatoxin G2	-	20
Ochratoxin A	-	20



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level

#### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

#### Reporting Limit (CFU/g)

1

"-" not detected above reporting limit

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### HEAVY METAL PROFILE

**Analysis Date/Time:** 05/21/2020 1556      **Method:** ICP/MS      **Deviations from SOP:**  
**Analyst:** CC      **Instrument:** PerkinElmer Elan 9000      None

<u>Heavy Metal</u>	<u>Result (µg/kg)</u>	<u>Action Level (µg/kg)</u>
Arsenic (As)	-	400
Cadmium (Cd)	176	440
Lead (Pb)	11.9	1000
Mercury (Hg)	-	200



*Abbreviations:* ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, MS - Mass Spectroscopy, RL - Reporting Limit, AL - Action Level

#### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/kg)**  
50

"-" not detected above reporting limit

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**MICROBIOLOGICAL PROFILE**

**Analysis Date/Time:** 05/21/2020 1556      **Method:** Hardy Diagnostics CompactDry      **Deviations from SOP:**  
**Analyst:** DJ      **Instrument:** Thermo Incubator      None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Escherichia Coli (E. Coli)	Absent	1
Mold/Yeast	Absent	10000
Salmonella spp.	Absent	1
Staphylococcus Aureus	Absent	1



*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**

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1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**  
1

"-" not detected above reporting limit

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