

SUMMARY OF ANALYSIS (SAMPLE ID: SA27109)

Testing Location: OKC 3680 E. I-240 Service Rd. Oklahoma City, OK 73135 License: LAAA-4Y4X-Z72Z	Customer ID: 1648 Red Dirt Sungrown P.O. Box 1399 Guthrie, OK 73044 License: GAAA-41RN-M7KD	Order ID: OR8452 Lot Number: CR051417 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 05/15/2020 Date Received: 05/15/2020
Cultivar (Strain) or Sample Description: Crescendo			Date Completed: 05/19/2020

*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.

Moisture Content (%) 13.6	PASS/FAIL PASS	Water Activity (aw) 0.48 @ 24.3°C	PASS/FAIL PASS
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<u>Cannabinoids (Top 3)</u>	<u>(%)</u>	<u>mg/g</u>
THCa	27.2	272
Δ9-THC	1.62	16
CBGa	0.766	8
TOTAL CBD	0.0683	0.683
TOTAL THC	25.5	255
TOTAL CANNABINOIDS	30	300

<u>Terpenes (Top 5)</u>	<u>(%)</u>	<u>µg/g</u>
β-Myrcene	0.599	5993
β-Caryophyllene	0.288	2880
α-Humulene	0.168	1677
Linalool	0.079	790
β-Ocimene	0.052	518
TOTAL TERPENES	1.33	13302

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



Scan the QR code to verify results.

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Kyle W. Felling, Ph.D.
Laboratory Director



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA27109)

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Cultivar (Strain) or Sample Description: Crescendo **Date Completed:** 05/19/2020

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 05/15/2020 1501 **Method:** HPLC/DAD **Moisture Content (%):** 13.6
Analyst: WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4845 @ 24.33Å°C

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.0504	-	-
CBDa	0.0778	0.778	0.0504	-	0.778
CBDv	0.00643	0.0643	0.0504	-	0.0643
Δ9-THC	1.62	16.2	0.0504	-	16
Δ8-THC	0.0458	0.458	0.0504	-	0.458
THCa	27.2	272	0.0504	-	272
THCv	0.00981	0.0981	0.0504	-	0.0981
CBC	0.0908	0.908	0.0504	-	0.908
CBG	0.188	1.88	0.0504	-	1.88
CBGa	0.766	7.66	0.0504	-	8
CBN	0.00711	0.0711	0.0504	-	0.0711
TOTAL	30	300			300
TOTAL THC	25.5	255			255
TOTAL CBD	0.0683	0.683			0.683

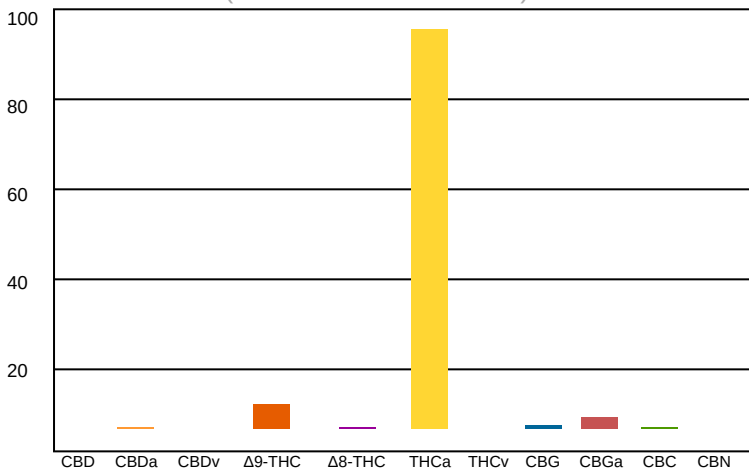


UNIT MASS (g): 1

"-" 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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TERPENOID PROFILE

Analysis Date/Time: 05/15/2020 1501 **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	368	0.0368	
Camphene	-	-	
δ-3-Carene	-	-	
β-Caryophyllene	2880	0.288	█
Caryophyllene oxide	319	0.0319	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	118	0.0118	
Guaiol	-	-	
α-Humulene	1677	0.168	█
Isopulegol	-	-	
d-Limonene	487	0.0487	
Linalool	790	0.079	
β-Myrcene	5993	0.599	█
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	518	0.0518	
α-Pinene	154	0.0154	
β-Pinene	-	-	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
TOTAL	13302	1.33	



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 2.02

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Cultivar (Strain) or Sample Description: Crescendo **Date Completed:** 05/19/2020

PESTICIDES PROFILE

Analysis Date/Time: 05/15/2020 1501
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: 05/15/2020 1501
Analyst: DJ

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

Deviations from SOP:
None

<u>Mycotoxin</u>	<u>Result (µg/kg)</u>	<u>Action Level (µg/kg)</u>
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: 05/15/2020 1501 **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)	-	440
Lead (Pb)	-	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: 05/15/2020 1501 **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

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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