

SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
Cultivar (Strain) or Sample Description: Mandarin Zkittlez			Date Completed: 04/01/2020

*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 (%) 11.1	PASS/FAIL PASS	Water Activity (aw) 0.48 @ 26.9°C	PASS/FAIL PASS
-------------------------------------	---------------------------------	---	---------------------------------

Cannabinoids (Top 3)	(%)	mg/g
THCa	17.8	178
CBGa	0.544	5
Δ9-THC	0.301	3
TOTAL CBD	0.0702	0.702
TOTAL THC	15.9	159
TOTAL CANNABINOIDS	19	190

Terpenes (Top 5)	(%)	µg/g
β-Caryophyllene	0.295	2954
α-Ocimene	0.248	2482
d-Limonene	0.190	1902
α-Humulene	0.190	1901
Guaiol	0.167	1671
TOTAL TERPENES	1.27	12741

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



Scan the QR code to verify results.

This information is provided as a service and makes no claims of efficacy and/or safety of this product.

Results are applicable only for the sample(s) analyzed and for the specific analysis conducted.

This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms.

The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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



CERTIFICATE OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
--	--	---	--

Cultivar (Strain) or Sample Description: Mandarin Zkittlez **Date Completed:** 04/01/2020

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 03/27/2020 1552 **Method:** HPLC/DAD **Moisture Content (%):** 11.1
Analyst: WW **Instrument:** Agilent 1100 **Water Activity (aw):** 0.4786 @ 26.94Å°C

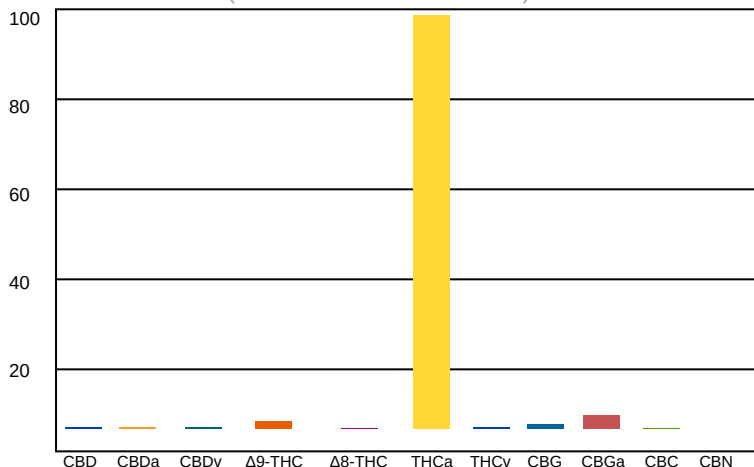
Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	0.022	0.22	0.0509	-	0.22
CBDa	0.055	0.55	0.0509	-	0.55
CBDv	0.0235	0.235	0.0509	-	0.235
Δ9-THC	0.301	3.01	0.0509	-	3
Δ8-THC	0.0134	0.134	0.0509	-	0.134
THCa	17.8	178	0.0509	-	178
THCv	0.0349	0.349	0.0509	-	0.349
CBC	0.0133	0.133	0.0509	-	0.133
CBG	0.169	1.69	0.0509	-	1.69
CBGa	0.544	5.44	0.0509	-	5
CBN	-	-	0.0509	-	-
TOTAL	19	190			190
TOTAL THC	15.9	159			159
TOTAL CBD	0.0702	0.702			0.702



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

This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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



SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
Cultivar (Strain) or Sample Description: Mandarin Zkittlez			Date Completed: 04/01/2020

TERPENOID PROFILE

Analysis Date/Time: 03/27/2020 1552 **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	-	-	
Camphene	53	0.00529	
δ-3-Carene	-	-	
β-Caryophyllene	2954	0.295	■
Caryophyllene oxide	247	0.0247	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	1671	0.167	■
α-Humulene	1901	0.19	■
Isopulegol	-	-	
d-Limonene	1902	0.19	■
Linalool	854	0.0854	■
β-Myrcene	202	0.0202	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	2482	0.248	■
β-Ocimene	-	-	
α-Pinene	157	0.0157	
β-Pinene	318	0.0318	
α-Terpinene	-	-	
γ-Terpinene	-	-	
Terpinolene	-	-	
TOTAL	12741	1.27	



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

This information is provided as a service and makes no claims of efficacy and/or safety of this product.

Results are applicable only for the sample(s) analyzed and for the specific analysis conducted.

This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms.

The statements and results herein have not been approved and/or endorsed by the FDA.

"-" Not detected above RL.

Reporting Limit (µg/g): 2.04

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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

www.FASTLaboratories.com



SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
--	--	---	--

Cultivar (Strain) or Sample Description: Mandarin Zkittlez **Date Completed:** 04/01/2020

PESTICIDES PROFILE

Analysis Date/Time: 03/27/2020 1552

Method: LC/MS/MS

Deviations from SOP:

Analyst: DJ

Instrument: Waters Acquity/TQD

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		

Disclaimer: This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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

www.FASTLaboratories.com



SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
Cultivar (Strain) or Sample Description: Mandarin Zkittlez			Date Completed: 04/01/2020

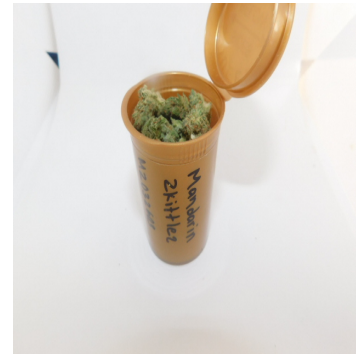
MYCOTOXIN PROFILE

Analysis Date/Time: 03/27/2020 1552
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

Disclaimer: This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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



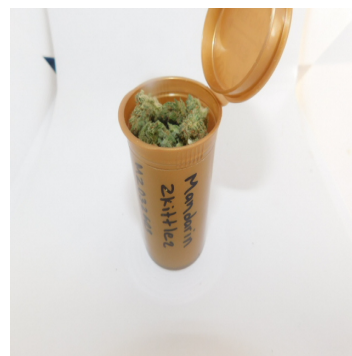
SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
Cultivar (Strain) or Sample Description: Mandarin Zkittlez			Date Completed: 04/01/2020

HEAVY METAL PROFILE

Analysis Date/Time: 03/27/2020 1552 **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

Disclaimer: This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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



SUMMARY OF ANALYSIS (SAMPLE ID: SA2020-24858)

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: OR2020-7773 Lot Number: MZ032603 Batch Number: Not Entered	Sample Type: Primary Matrix: Flower Mass: 5g Date Collected: 03/27/2020 Date Received: 03/27/2020
Cultivar (Strain) or Sample Description: Mandarin Zkittlez			Date Completed: 04/01/2020

MICROBIOLOGICAL PROFILE

Analysis Date/Time: 03/27/2020 1552 **Method:** Hardy Diagnostics CompactDry **Deviations from SOP:**
Analyst: KB **Instrument:** Thermo Incubator None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Aerobic Plate Count, Total	90	-
Escherichia Coli (E. Coli)	Absent	1
Mold	Absent	10000
Yeast	Absent	10000
Salmonella spp.	Absent	1



Abbreviations: EC - Escherichia Coli, CFU - Colony-Forming Unit, RL - Reporting Limit, AL - Action Level, NT - Not Tested

Color Key

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

Reporting Limit (CFU/g)
1

"-" not detected above reporting limit

Disclaimer: This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology of Oklahoma City, LLC

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

