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**Tulsa Location**
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(918) 340-7139

# CERTIFICATE OF ANALYSIS

**Order Type:** Medical Cannabis
**Order ID:** OR2019-3302
**Customer ID:** 666
**Customer Name:** Field Of Greens
**Harvest/Extract Lot:** None
**Harvest/Extract Batch:** None

**Cultivar (Strain):** B1-B
**Sample Date:** 08/27/2019
**Lab ID:** SA2019-10409
**Date Received:** 08/27/2019
**Sample Matrix:** Concentrate
**Date Completed:** 09/03/2019

**Remarks:**

## CANNABINOID (POTENCY) PROFILE

**Analysis Date/Time:** 08/30/2019 0938
**Analyst:** OL
**Method:** HPLC/DAD (Internal Method-001)
**Instrument:** Agilent 1100
**Moisture Content (%):** -
**Water Activity (aw):** -

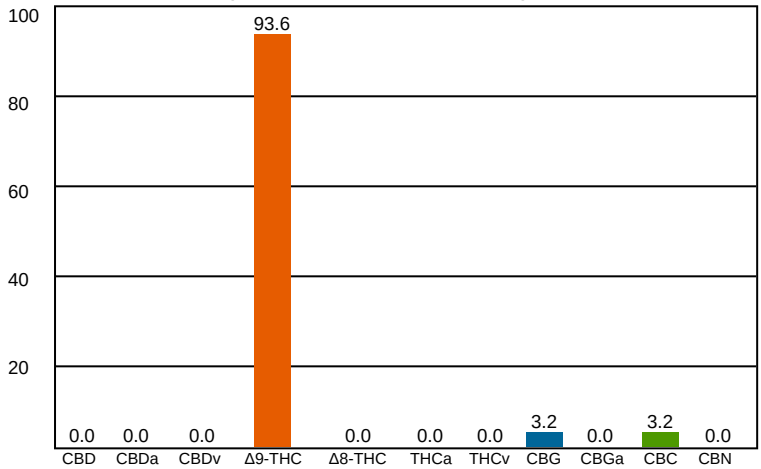
| Cannabinoid | Result (%) | Result (mg/g) | Reporting Limit (mg/g) | Result (mg/mL) | Per Unit (mg) |
|---|---|---|---|---|---|
| CBD | - | - | 0.492 | - | - |
| CBDa | - | - | 0.492 | - | - |
| CBDv | - | - | 0.492 | - | - |
| Δ9-THC | 93 | 930 | 0.492 | - | 930 |
| Δ8-THC | - | - | 0.492 | - | - |
| THCa | - | - | 0.492 | - | - |
| THCv | - | - | 0.492 | - | - |
| CBC | 3.19 | 31.9 | 0.492 | - | 32 |
| CBG | 3.19 | 31.9 | 0.492 | - | 32 |
| CBGa | - | - | 0.492 | - | - |
| CBN | - | - | 0.492 | - | - |
| **TOTAL** | 99.4 | 994 | | - | 994 |
| **TOTAL THC** | 93 | 930 | | - | 930 |
| **TOTAL CBD** | - | - | | - | - |

**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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**Remarks:**

## TERPENOID PROFILE

**Analysis Date/Time:** 08/30/2019 0938
**Analyst:** OL
**Method:** HS/GC/FID (Internal Method-002)
**Instrument:** Agilent 6890
**Deviations from SOP:** None

| Terpene | Result (µg/g) | Result (%) |
|---|---|---|
| α-Bisabolol | - | - |
| Camphene | - | - |
| δ-3-Carene | - | - |
| β-Caryophyllene | - | - |
| Caryophyllene oxide | - | - |
| p-Cymene | - | - |
| Eucalyptol | - | - |
| Geraniol | - | - |
| Guaiol | - | - |
| α-Humulene | - | - |
| Isopulegol | - | - |
| d-Limonene | - | - |
| Linalool | - | - |
| β-Myrcene | - | - |
| cis-Nerolidol | - | - |
| trans-Nerolidol | - | - |
| α-Ocimene | - | - |
| β-Ocimene | - | - |
| α-Pinene | - | - |
| β-Pinene | - | - |
| α-Terpinene | - | - |
| γ-Terpinene | - | - |
| Terpinolene | - | - |
| **TOTAL** | 0 | 0 |

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

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"-" Not detected above RL.

**Reporting Limit (µg/g):** 13.1

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**Remarks:**
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## RESIDUAL SOLVENT PROFILE

**Analysis Date/Time:** 08/30/2019 0938
**Analyst:** OL
**Method:** USP <467>
**Instrument:** Agilent 6890
**Deviations from SOP:**
None

| Solvent | Result (µg/g) | Action Level (µg/g) |
|---|---|---|
| Acetone (67-64-1) | - | 1000 |
| Benzene (71-43-2) | - | 2 |
| n-Butane (106-97-2) | - | 1000 |
| 2,2-Dimethylbutane (75-83-2) | - | 60 |
| 2,3-Dimethylbutane (79-29-8) | - | 60 |
| Ethyl benzene (100-41-4) | - | 430 |
| n-Heptane (142-82-5) | - | 1000 |
| n-Hexane (110-54-3) | - | 60 |
| Isobutane (75-28-5) | - | 1000 |
| Isopropanol (67-63-0) | - | 1000 |
| 2-Methylbutane (78-78-4) | - | 1000 |
| 2-Methylpentane (107-83-5) | - | 60 |
| 3-Methylpentane (96-10-0) | - | 60 |
| n-Pentane (109-66-0) | - | 1000 |
| n-Propane (74-98-6) | - | 1000 |
| Toluene (108-88-3) | - | 180 |
| o-Xylene (95-47-6) | - | 430 |
| m,p-Xylene (108-38-3 or 106-42-3) | - | 430 |
| Xylenes* (1330-20-7) | - | 430 |

**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

"*" - o,m,p-Xylene and Ethylbenzene

| Solvent | Synonym(s) | Solvent | Synonym(s) | Solvent | Synonym(s) |
|---|---|---|---|---|---|
| Acetonitrile | Methyl Cyanide, ACN | 2-Ethoxyethanol | Cellosolve, Ethyl glycol | Methanol | Methyl alcohol |
| 1-Butanol | n-Butanol, Butyl Alcohol | Ethyl ether | Diethyl ether, Ether | 2-Methylbutane | Isopentane |
| 2-Butanol | sec-Butyl alcohol | Ethyl acetate | EtOAc | Methylene chloride | Dichloromethane |
| 2-Butanone | Methyl ethyl ketone, MEK | Ethyl benzene | Phenylethane | 2-Methylpentane | Isohexane |
| 1,2-Dimethoxyethane | Monoglyme | Ethylene glycol | 1,2-Ethanediol | 1-Pentanol | n-Amyl alcohol |
| 2,3-Dimethylbutane | Neohexane | Ethylene oxide | Oxirane | 1-Propanol | Propyl alcohol |
| 2,3-Dimethylbutane | Diisopropyl | Isobutane | 2-Methylpropane | Tetrahydrofuran | THF |
| N,N-Dimethylformamide | DMF | Isopropanol | 2-Propanol, IPA | Tetramethylene sulfone | Sulfolane |
| Dimethysufoxide | DMSO | Isopropyl Acetate | Acetic acid isopropyl ester | Xylene | Dimethylbenzene |

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

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**Remarks:**
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## PESTICIDES PROFILE

**Analysis Date/Time:** 08/30/2019 0938
**Analyst:** OL
**Method:** LC/MS/MS and GC/MS
**Instrument:** Waters Acquity/TQD
**Deviations from SOP:** None

| Pesticide | Result (µg/g) | Action Level (µg/g) |
|---|---|---|
| Abamectin (71751-41-2) | - | 0.5 |
| Azoxystrobin (131860-33-8) | - | 0.5 |
| Bifenazate* (149877-41-8) | - | 0.5 |
| Etoxazole (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**

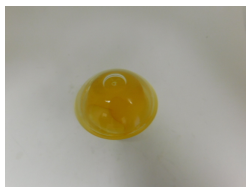
**RESULT < 1/2 AL**
**1/2 AL < RESULT < AL**
**RESULT > AL**

**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

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

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## MYCOTOXIN PROFILE

**Analysis Date/Time:** 08/30/2019 0938
**Analyst:** OL
**Method:** LC/MS/MS
**Instrument:** Waters Acquity/TQD
**Deviations from SOP:** None

| Mycotoxin | Result (µg/kg) | Action Level (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:** 08/30/2019 0938
**Analyst:** OL
**Method:** ICP/MS
**Instrument:** PerkinElmer Elan 9000
**Deviations from SOP:** None

| Heavy Metal | Result (µg/kg) | Action Level (µg/kg) |
|---|---|---|
| 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:** 08/30/2019 0938
**Analyst:** OL
**Method:** Hardy Diagnostics CompactDry
**Instrument:** Thermo Incubator
**Deviations from SOP:** None

| Bacteria/Microbe | Result (CFU/g) | Action Level (CFU/g) |
|---|---|---|
| Aerobic Plate Count, Total | NT | - |
| 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



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