

**SUMMARY OF ANALYSIS (SAMPLE ID: SA42030)**

<b>Testing Location:</b> Arkansas 232 S. Broadview St. Greenbrier, AR 72058 License: ADH 113	<b>Customer ID:</b> 2161 River Valley Relief Cultivation 5601 Old Greenwood Rd Suite C Fort Smith, AR 72903 License: 00065C	<b>Order ID:</b> OR11761 <b>Lot Number:</b> M00065C13139087458 <b>Production Run:</b> 6104H20250707MUD-2	<b>Sample Type:</b> Primary <b>Matrix:</b> Flower <b>Mass:</b> 14g <b>Date Collected:</b> 08/21/2025 <b>Date Received:</b> 08/21/2025
<b>Cultivar (Strain) or Sample Description:</b> Mulberry Diesel			<b>Date Completed:</b> 08/25/2025

\*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.

\*Where provided, statements of conformity (e.g. Pass/Fail) are made in accordance with ILAC G8, Binary Statement for Simple Acceptance Rule (w=0, AL=TL). PASS: when the result is within the acceptance interval. FAIL: when the result is outside the acceptance interval

**Moisture Content (%)**

10.5

**Water Activity (aw)**

0.452 @ 24.4°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.

<b>Cannabinoids (Top 3)</b>	<b>(%)</b>	<b>mg/g</b>
THCA	25.9	259
CBGA	1.35	13.5
THCVA	0.202	2.02
TOTAL CBD	0.000	0.000
TOTAL THC	22.9	229
TOTAL CANNABINOIDS	27.8	278

  

<b>Terpenes (Top 5)</b>	<b>(%)</b>	<b>ppm</b>
d-Limonene	0.634	6340
β-Caryophyllene	0.494	4940
α-Humulene	0.382	3820
β-Myrcene	0.332	3320
Linalool	0.233	2330
TOTAL TERPENES	2.49	24900

<b>Contaminants</b>	<b>PASS/FAIL</b>
Heavy Metals:	PASS
Microbiology:	PASS
Pesticides:	PASS



Scan the QR code to verify results.

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F.A.S.T. Personnel perform sampling following the Sampling SOP (SOP-02).

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



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<b>Cultivar (Strain) or Sample Description:</b> Mulberry Diesel			<b>Date Completed:</b> 08/25/2025

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

**Analysis Date/Time:** 08/22/2025 1516      **Method:** HPLC/DAD      **Moisture Content (%):** 10.5  
**Analyst:** PW      **Instrument:** Agilent 1100      **Water Activity (aw):** 0.452 @ 24.4°C

<u>Cannabinoid</u>	<u>Result (%)</u>	<u>Result (mg/g)</u>	<u>LOD (mg/g)</u>	<u>LOQ (mg/g)</u>	<u>Result (mg/mL)</u>	<u>Per Serving (mg)</u>	<u>Per Unit (mg)</u>
CBC	ND	ND	0.0429	0.100	-	0.000	0.000
CBCA	ND	ND	0.133	0.311	-	0.000	0.000
CBD	ND	ND	0.302	0.706	-	0.000	0.000
CBDA	ND	ND	0.111	0.260	-	0.000	0.000
CBDV	ND	ND	0.0485	0.113	-	0.000	0.000
CBDVA	ND	ND	0.129	0.302	-	0.000	0.000
CBG	0.191	1.91	0.196	0.458	-	1.71	1.71
CBGA	1.35	13.5	0.278	0.328	-	12.1	12.1
CBL	ND	ND	0.227	0.529	-	0.000	0.000
CBN	ND	ND	0.104	0.243	-	0.000	0.000
CBNA	ND	ND	0.112	0.262	-	0.000	0.000
Δ9-THC	0.193	1.93	0.125	0.291	-	1.73	1.73
Δ8-THC	ND	ND	0.195	0.455	-	0.000	0.000
THCA	25.9	259	0.0677	0.158	-	232	232
THCV	ND	ND	0.162	0.379	-	0.000	0.000
THCVA	0.202	2.02	0.0519	0.121	-	1.81	1.81
<b>TOTAL</b>	<b>27.8</b>	<b>278</b>			-	<b>249</b>	<b>249</b>
<b>TOTAL CBC</b>	<b>0.000</b>	<b>0.000</b>			-	<b>0.000</b>	<b>0.000</b>
<b>TOTAL CBD</b>	<b>0.000</b>	<b>0.000</b>			-	<b>0.000</b>	<b>0.000</b>
<b>TOTAL CBDV</b>	<b>0.000</b>	<b>0.000</b>			-	<b>0.000</b>	<b>0.000</b>
<b>TOTAL CBG</b>	<b>1.37</b>	<b>13.7</b>			-	<b>12.3</b>	<b>12.3</b>
<b>TOTAL CBN</b>	<b>0.000</b>	<b>0.000</b>			-	<b>0.000</b>	<b>0.000</b>
<b>TOTAL THC</b>	<b>22.9</b>	<b>229</b>			-	<b>205</b>	<b>205</b>
<b>TOTAL THCV</b>	<b>0.175</b>	<b>1.75</b>			-	<b>1.57</b>	<b>1.57</b>



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

"-" Not reported for this sample.

*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.  
Dry percent = Wet percent / (1-(Moisture Content/100))

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 THCV = (THCVA x 0.867) + THCV

Percentage results are reported by mass.

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

*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, ND - Not Detected (less than LOD)

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<b>Cultivar (Strain) or Sample Description:</b> Mulberry Diesel			<b>Date Completed:</b> 08/25/2025

**TERPENOID PROFILE**

**Analysis Date/Time:** 08/22/2025 1724  
**Analyst:** KF

**Method:** GC/MS  
**Instrument:** Agilent 7890/5975

**Deviations from SOP:**  
None

<u>Terpene</u>	<u>Result (ppm)</u>	<u>Result (%)</u>	
α-Bisabolol	118	0.0118	
Camphene	196	0.0196	
δ-3-Carene	ND	-	
β-Caryophyllene	4940	0.494	■
Caryophyllene oxide	135	0.0135	
p-Cymene	<LOQ	-	
Eucalyptol	<LOQ	-	
Geraniol	ND	-	
Guaiol	ND	-	
α-Humulene	3820	0.382	■
Isopulegol	ND	-	
d-Limonene	6340	0.634	■
Linalool	2330	0.233	■
β-Myrcene	3320	0.332	■
cis-Nerolidol	ND	-	
trans-Nerolidol	1450	0.145	■
α-Ocimene	<LOQ	-	
β-Ocimene	<LOQ	-	
α-Pinene	822	0.0822	■
β-Pinene	1340	0.134	■
α-Terpinene	ND	-	
γ-Terpinene	ND	-	
Terpinolene	70.1	0.00701	
<b>TOTAL</b>	<b>24900</b>	<b>2.49</b>	



*Abbreviations:* GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit  
*Abbreviations:* ND - Not Detected, LOD - Limit of Detection, LOQ - Limit of Quantitation

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**Reporting Limit (ppm): 47.0**

"-" Not detected above LOD.

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**Cultivar (Strain) or Sample Description:** Mulberry Diesel **Date Completed:** 08/25/2025

**PESTICIDES PROFILE (SOP: SOP-PEST-001)**

**Analysis Date/Time:** 08/22/2025 1608  
**Analyst:** KF

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

**Deviations from SOP:** None

Pesticide	Result (ppm)	LOD (ppm)	LOQ (ppm)	Action Level (ppm)	Pesticide	Result (ppm)	LOD (ppm)	LOQ (ppm)	Action Level (ppm)
Abamectin (71751-41-2)	-	0.0468	0.374	0.5	Kresoxim-methyl (143390-89-0)	-	0.0468	0.374	0.4
Acephate (30560-19-1)	-	0.0468	0.374	0.4	Malathion (121-75-5)	-	0.0468	0.374	0.2
Acetamiprid (135410-20-7)	-	0.0468	0.374	0.2	Metalaxyl (57837-19-1)	-	0.0468	0.374	0.2
Aldicarb (116-06-3)	-	0.0468	0.374	0.4	Methiocarb (2032-65-7)	-	0.0468	0.374	0.2
Azoxystrobin (131860-33-8)	-	0.0468	0.374	0.2	Methomyl (16752-77-5)	-	0.0468	0.374	0.4
Bifenazate (149877-41-8)	-	0.0468	0.374	0.2	Methyl parathion (298-0-0)	-	0.0468	0.374	0.2
Bifenthrin (82657-04-3)	-	0.0468	0.374	0.2	MGK 264 (113-48-4)	-	0.0468	0.374	0.2
Boscalid (188425-85-6)	-	0.0468	0.374	0.4	Myclobutanil (88671-89-0)	-	0.0468	0.374	0.2
Carbaryl (63-25-2)	-	0.0468	0.374	0.2	Naled (300-76-5)	-	0.0468	0.374	0.5
Carbofuran (1563-66-2)	-	0.0468	0.374	0.2	Oxamyl (23135-22-0)	-	0.0468	0.374	1
Chlorantraniliprole (800008-45-7)	-	0.0468	0.374	0.2	Pacllobutrazol (76738-62-0)	-	0.0468	0.374	0.4
Chlorfenapyr (122453-73-0)	-	0.0468	0.374	1	Permethrins (52645-53-1)	-	0.0468	0.374	0.2
Chlorpyrifos (2921-88-2)	-	0.0468	0.374	0.2	Phosmet (732-11-6)	-	0.0468	0.374	0.2
Clofentezine (74115-24-5)	-	0.0468	0.374	0.2	Piperonyl butoxide (51-03-6)	-	0.0468	0.374	2
Cyfluthrin (68359-37-5)	-	0.0468	0.374	1	Prallethrins (2331-36-9)	-	0.0468	0.374	0.2
Cypermethrin (52315-07-8)	-	0.0468	0.374	1	Propiconazole (60207-90-1)	-	0.0468	0.374	0.4
Daminozide (1596-84-5)	-	0.0468	0.374	1	Propoxur (114-26-1)	-	0.0468	0.374	0.2
DDVP (62-73-7)	-	0.0468	0.374	0.1	Pyrethrins (8003-34-7)	-	0.0468	0.374	1
Diazinon (333-41-5)	-	0.0468	0.374	0.2	Pyridaben (96489-71-3)	-	0.0468	0.374	0.2
Dimethoate (60-51-5)	-	0.0468	0.374	0.2	Spinosad (168316-95-8)	-	0.0468	0.374	0.2
Ethoprophos (13194-48-4)	-	0.0468	0.374	0.2	Spiromesifen (283594-90-1)	-	0.0468	0.374	0.2
Etofenprox (80844-07-1)	-	0.0468	0.374	0.4	Spirotetramat (203313-25-1)	-	0.0468	0.374	0.2
Etoxazole (153233-91-1)	-	0.0468	0.374	0.2	Spiroxamine (118134-30-8)	-	0.0468	0.374	0.4
Fenoxycarb (72490-01-8)	-	0.0468	0.374	0.2	Tebuconazole (80443-41-0)	-	0.0468	0.374	0.4
(E)-Fenpyroximate (134098-61-6)	-	0.0468	0.374	0.4	Thiacloprid (111988-49-9)	-	0.0468	0.374	0.2
Fipronil (120068-37-3)	-	0.0468	0.374	0.4	Thiamethoxam (153719-23-4)	-	0.0468	0.374	0.2
Fonicamid (158062-67-0)	-	0.0468	0.374	1	Trifloxystrobin (141517-21-7)	-	0.0468	0.374	0.2
Fludioxinil (131341-86-1)	-	0.0468	0.374	0.4					
Hexythiazox (78587-05-0)	-	0.0468	0.374	1					
Imazalil (35554-44-0)	-	0.0468	0.374	0.2					
Imidacloprid (138261-41-3)	-	0.0468	0.374	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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<b>Cultivar (Strain) or Sample Description:</b> Mulberry Diesel			<b>Date Completed:</b> 08/25/2025

**HEAVY METAL PROFILE (SOP: SOP-ICP-200.6)**

**Analysis Date/Time:** 08/22/2025 1432      **Method:** ICP/MS      **Deviations from SOP:** None  
**Analyst:** KF      **Instrument:** Agilent 7700x

<u>Heavy Metal</u>	<u>Result (ppb)</u>	<u>LOD (ppb)</u>	<u>LOQ (ppb)</u>	<u>Action Level (ppb)</u>
Arsenic (As)	ND	59.7	94.5	200
Cadmium (Cd)	ND	59.7	94.5	200
Lead (Pb)	ND	59.7	94.5	500
Mercury (Hg)	ND	59.7	94.5	100



*Abbreviations:* ICP - Inductively-Coupled Plasma, MS - Mass Spectrometry, 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

"ND" not detected above LOD

Reporting limit is 1/2 the action level of each analyte.

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

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**MICROBIOLOGICAL PROFILE (SOP: SOP-Micro-001)**

**Analysis Date/Time:** 08/22/2025 1302      **Method:** Hardy Diagnostics CompactDry      **Deviations from SOP:**  
**Analyst:** PW      **Instrument:** Thermo Incubator      None

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