

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007

Potency

Potency Analysis Date: 2/19/2020
 Potency Batch ID: CAN_021920E
 Potency Method: JAOAC 2015.1

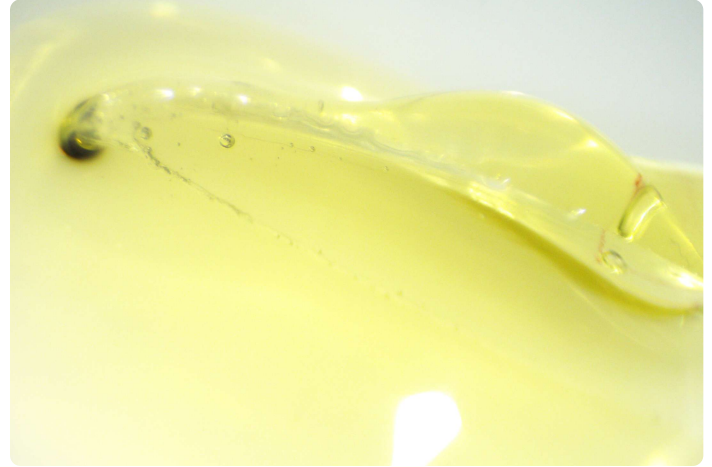
71.9%

**Total
THC**

0.193%




**Total
CBD**

Samples: TFD-FJX-GHB, ZTD-GWJ-DGB



Analyte	Description	LOQ	RPD	Min.	Max.	Avg.	Unit: %
Δ9THC	Delta-9 Tetrahydrocannabinol	0.16	5.91	69.8	74.0	71.9	
THCA	Tetrahydrocannabinolic acid	0.16	0.00	ND	<LOQ	<LOQ	
CBD	Cannabidiol	0.16	18.5	<LOQ	0.193	0.193	
CBDA	Cannabidiolic acid	0.16	0.00	ND	<LOQ	<LOQ	
Δ8THC	Delta-8 Tetrahydrocannabinol*	0.16	0.00	ND	ND	ND	
THCV	Tetrahydrocannabivarin*	0.16	24.9	ND	0.206	0.103	
CBG	Cannabigerol*	0.16	6.84	2.05	2.19	2.12	
CBGA	Cannabigerolic acid*	0.16	0.00	ND	ND	ND	
CBC	Cannabichromene*	0.16	1.15	1.27	1.28	1.27	
CBCA	Cannabichromenic acid*	0.16	0.00	ND	ND	ND	
CBN	Cannabinol	0.16	20.6	0.337	0.415	0.376	
Total THC	Δ9THC + (THCA × 0.877)		5.91	69.8	74.0	71.9	
Total CBD	CBD + (CBDA × 0.877)		18.5	<LOQ	0.193	0.193	
Total			6.06	73.4	78.3	76.0	

Compliance

Pesticides	Within limits	Analysis Date: 2/19/2020	Pass 
Solvents	Within limits	Analysis Date: 2/20/2020	Pass 
Potency	Within limits	Analysis Date: 2/19/2020	Pass 


 Bryce Kidd, Ph.D.
 Lab Director


 Aaron Troyer
 Chief Science Officer



382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007



Terpene Analysis Date: 2/19/2020
Terpene Batch ID: TRP_021920A

Method: JAOAC 2015.1
Unit: %

Analyte	Avg.	Notes	Analyte	Avg.	Notes
β-Caryophyllene	3.50%		Geranyl Acetate	ND	
Humulene	1.62%		Guaiol	ND	
Linalool	0.566%		Isoborneol	ND	
α-Terpineol	0.330%		Isopulegol	ND	
Fenchol	0.320%		Pulegone	ND	
Limonene	0.306%		Sabinene Hydrate	ND	
α-Bisabolol	0.218%		Valencene	ND	
β-Ocimene	0.0942%		cis-Nerolidol	ND	
β-Myrcene	0.0853%		trans-Nerolidol	ND	
Selinadiene	0.0436%		α-Cedrene	ND	
Caryophyllene Oxide	0.0335%		α-Phellandrene	ND	
β-Pinene	0.0248%		β-Farnesene 1	ND	
Sabinene	0.0226%		β-Farnesene 2	ND	
Borneol	0.0224%		γ-Terpineol	ND	
α-Ocimene	0.0211%		Total	7.28%	
Eucalyptol	0.0176%				
Fenchone	0.0158%				
Terpinolene	0.0148%				
α-Pinene	0.0101%				
γ-Terpinene	0.00437%				
α-Terpinene	0.00355%				
Camphene	0.00270%				
Δ3-Carene	0.00210%				
Nerol	0.00118%				
Azulene	ND				
Camphore	ND				
Cedrol	ND				
Cymene	ND				
Geraniol	ND				

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007



Pesticides Analysis Date: 2/19/2020
 Pesticides Batch ID: PST_021920B

Method: EN 15662
 Unit: µg/g (ppm)

Pass 

Analyte	ZTD-GWJ-DGB	TFD-FJX-GHB	Limits	LOQ	Notes	Status	Analyte	ZTD-GWJ-DGB	TFD-FJX-GHB	Limits	LOQ	Notes	Status
Abamectin	ND	ND	0.5	0.1		Pass	Metalaxyl	ND	ND	0.2	0.1		Pass
Acephate	ND	ND	0.4	0.1		Pass	Methiocarb	ND	ND	0.2	0.1		Pass
Acequinocyl	ND	ND	2.0	1.5		Pass	Methomyl	ND	ND	0.4	0.1		Pass
Acetamiprid	ND	ND	0.2	0.1		Pass	Methyl Parathion	ND	ND	0.2	0.2		Pass
Aldicarb	ND	ND	0.4	0.1		Pass	MGK-264	ND	ND	0.2	0.2		Pass
Azoxystrobin	ND	ND	0.2	0.1		Pass	Myclobutanil	ND	ND	0.2	0.1		Pass
Bifenazate	ND	ND	0.2	0.1		Pass	Naled	ND	ND	0.5	0.2		Pass
Bifenthrin	ND	ND	0.2	0.1		Pass	Oxamyl	ND	ND	1.0	0.1		Pass
Boscalid	ND	ND	0.4	0.1		Pass	Paclobutrazol	ND	ND	0.4	0.1		Pass
Carbaryl	ND	ND	0.2	0.1		Pass	Permethrins	ND	ND	0.2	0.1		Pass
Carbofuran	ND	ND	0.2	0.1		Pass	Phosmet	ND	ND	0.2	0.1		Pass
Chlorantraniliprole	ND	ND	0.2	0.1		Pass	Piperonyl Butoxide	ND	ND	2.0	0.1		Pass
Chlorfenapyr	ND	ND	1.0	0.1		Pass	Prallethrin	ND	ND	0.2	0.1		Pass
Chlorpyrifos	ND	ND	0.2	0.1		Pass	Propiconazole	ND	ND	0.4	0.1		Pass
Clofentezine	ND	ND	0.2	0.1		Pass	Propoxur	ND	ND	0.2	0.1		Pass
Cyfluthrin	ND	ND	1.0	0.5		Pass	Pyrethrins	ND	ND	1.0	0.5		Pass
Cypermethrin	ND	ND	1.0	0.1		Pass	Pyridaben	ND	ND	0.2	0.1		Pass
Daminozide	ND	ND	1.0	0.5		Pass	Spinosad	ND	ND	0.2	0.1		Pass
Diazinon	ND	ND	0.2	0.1		Pass	Spiromesifen	ND	ND	0.2	0.1		Pass
Dichlorvos (DDVP)	ND	ND	1.0	0.5		Pass	Spirotetramat	ND	ND	0.2	0.1		Pass
Dimethoate	ND	ND	0.2	0.1		Pass	Spiroxamine	ND	ND	0.4	0.1		Pass
Ethoprophos	ND	ND	0.2	0.1		Pass	Tebuconazole	ND	ND	0.4	0.1		Pass
Etofenprox	ND	ND	0.4	0.1		Pass	Thiacloprid	ND	ND	0.2	0.1		Pass
Etoxazole	ND	ND	0.2	0.1		Pass	Thiamethoxam	ND	ND	0.2	0.1		Pass
Fenoxycarb	ND	ND	0.2	0.1		Pass	Trifloxystrobin	ND	ND	0.2	0.1		Pass
Fenpyroximate	ND	ND	0.4	0.1		Pass							
Fipronil	ND	ND	0.4	0.1		Pass							
Flonicamid	ND	ND	1.0	0.1		Pass							
Fludioxonil	ND	ND	0.4	0.1		Pass							
Hexythiazox	ND	ND	1.0	0.1		Pass							
Imazalil	ND	ND	0.2	0.1		Pass							
Imidacloprid	ND	ND	0.4	0.1		Pass							
Kresoxim-methyl	ND	ND	0.4	0.1		Pass							
Malathion	ND	ND	0.2	0.1		Pass							

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007

Pesticides Quality Control Data

Pesticides QC Analysis Date: 2/19/2020
 Pesticides QC Batch ID: PST_021920B

Method: EN 15662
 Unit: µg/g (ppm)

Analyte	Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes	Analyte	Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes
Abamectin	ND	0.1	1.22	1.00	122	50 - 150		Metalaxyl	ND	0.1	0.836	1.00	83.6	50 - 150	
Acephate	ND	0.1	0.952	1.00	95.2	50 - 150		Methiocarb	ND	0.1	0.882	1.00	88.2	50 - 150	
Acequinocyl	ND	1.5	1.10	1.00	110	50 - 150		Methomyl	ND	0.1	0.501	1.00	50.1	50 - 150	
Acetamiprid	ND	0.1	1.01	1.00	101	50 - 150		Methyl Parathion	ND	0.2	0.719	1.00	71.9	30 - 150	
Aldicarb	ND	0.1	0.582	1.00	58.2	50 - 150		MGK-264	ND	0.2	0.727	0.600	121	50 - 150	
Azoxystrobin	ND	0.1	1.05	1.00	105	50 - 150		Myclobutanil	ND	0.1	1.03	1.00	103	50 - 150	
Bifenazate	ND	0.1	3.86	1.00	386	50 - 150	HB	Naled	ND	0.2	2.04	1.00	204	50 - 150	HB
Bifenthrin	ND	0.1	0.742	1.00	74.2	50 - 150		Oxamyl	ND	0.1	0.666	1.00	66.6	50 - 150	
Boscalid	ND	0.1	0.872	1.00	87.2	50 - 150		Paclobutrazol	ND	0.1	0.764	1.00	76.4	50 - 150	
Carbaryl	ND	0.1	0.676	1.00	67.6	50 - 150		Permethrins	ND	0.1	0.934	1.00	93.4	50 - 150	
Carbofuran	ND	0.1	0.907	1.00	90.7	50 - 150		Phosmet	ND	0.1	0.815	1.00	81.5	50 - 150	
Chlorantraniliprole	ND	0.1	1.15	1.00	115	50 - 150		Piperonyl Butoxide	ND	0.1	0.780	1.00	78.0	50 - 150	
Chlorfenapyr	ND	0.1	1.20	1.00	120	50 - 150		Prallethrin	ND	0.1	0.945	1.00	94.5	50 - 150	
Chlorpyrifos	ND	0.1	0.874	1.00	87.4	50 - 150		Propiconazole	ND	0.1	1.18	1.00	118	50 - 150	
Clofentezine	ND	0.1	0.860	1.00	86.0	50 - 150		Propoxur	ND	0.1	0.724	1.00	72.4	50 - 150	
Cyfluthrin	ND	0.5	1.25	1.00	125	50 - 150		Pyrethrins	ND	0.5	0.642	1.00	64.2	50 - 150	
Cypermethrin	ND	0.1	1.04	1.00	104	50 - 150		Pyridaben	ND	0.1	1.08	1.00	108	50 - 150	
Daminozide	ND	0.5	ND	1.00	0.00	10 - 150	ND	Spinosad	ND	0.1	1.23	1.00	123	50 - 150	
Diazinon	ND	0.1	1.22	1.00	122	50 - 150		Spiromesifen	ND	0.1	1.35	1.00	135	50 - 150	
Dichlorvos (DDVP)	ND	0.5	0.530	1.00	53.0	50 - 150		Spirotetramat	ND	0.1	1.42	1.00	142	50 - 150	
Dimethoate	ND	0.1	0.818	1.00	81.8	50 - 150		Spiroxamine	ND	0.1	1.18	1.00	118	50 - 150	
Ethoprophos	ND	0.1	1.31	1.00	131	50 - 150		Tebuconazole	ND	0.1	1.13	1.00	113	50 - 150	
Etofenprox	ND	0.1	0.905	1.00	90.5	50 - 150		Thiacloprid	ND	0.1	0.729	1.00	72.9	50 - 150	
Etoxazole	ND	0.1	0.846	1.00	84.6	50 - 150		Thiamethoxam	ND	0.1	0.660	1.00	66.0	50 - 150	
Fenoxycarb	ND	0.1	1.48	1.00	148	50 - 150		Trifloxystrobin	ND	0.1	1.65	1.00	165	50 - 150	ME
Fenpyroximate	ND	0.1	0.954	1.00	95.4	50 - 150									
Fipronil	ND	0.1	1.62	1.00	162	50 - 150	ME								
Flonicamid	ND	0.1	0.766	1.00	76.6	50 - 150									
Fludioxonil	ND	0.1	1.16	1.00	116	50 - 150									
Hexythiazox	ND	0.1	0.678	1.00	67.8	50 - 150									
Imazalil	ND	0.1	1.07	1.00	107	50 - 150									
Imidacloprid	ND	0.1	1.01	1.00	101	50 - 150									
Kresoxim-methyl	ND	0.1	1.10	1.00	110	50 - 150									
Malathion	ND	0.1	1.12	1.00	112	50 - 150									

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007

Residual Solvents Sample Data

Solvents Analysis Date: 2/20/2020
 Solvents Batch ID: RES_021920A

Method: EPA 5021A
 Unit: µg/g (ppm)

Pass 

Analyte	ZTD-GWJ-DGB	TFD-FJX-GHB	RPD (%)	Limits	LOQ	Notes	Status
1,4-Dioxane	ND	ND	0.00	380.0	50.0		Pass
2-Butanol	ND	ND	0.00	5000.0	250.0		Pass
2-Ethoxyethanol	ND	ND	0.00	160.0	50.0		Pass
Acetone	ND	ND	0.00	5000.0	250.0		Pass
Acetonitrile	ND	ND	0.00	410.0	50.0		Pass
Benzene	ND	ND	0.00	2.0	2.0		Pass
Butanes	ND	ND	0.00	5000.0	250.0		Pass
Cumene	ND	ND	0.00	70.0	50.0		Pass
Cyclohexane	ND	ND	0.00	3880.0	50.0		Pass
Ethyl Acetate	ND	ND	0.00	5000.0	250.0		Pass
Ethyl Ether	ND	ND	0.00	5000.0	250.0		Pass
Ethylene Glycol	ND	ND	0.00	620.0	250.0		Pass
Ethylene Oxide	ND	ND	0.00	50.0	50.0		Pass
Heptane	ND	ND	0.00	5000.0	250.0		Pass
Hexanes	ND	ND	0.00	290.0	50.0		Pass
Isopropanol (2-Propanol)	ND	ND	0.00	5000.0	50.0		Pass
Isopropyl Acetate	ND	ND	0.00	5000.0	250.0		Pass
Methanol	ND	ND	0.00	3000.0	250.0		Pass
Dichloromethane	ND	ND	0.00	600.0	50.0		Pass
Pentanes	ND	ND	0.00	5000.0	250.0		Pass
Propane	ND	ND	0.00	5000.0	250.0		Pass
Tetrahydrofuran	ND	ND	0.00	720.0	50.0		Pass
Toluene	ND	ND	0.00	890.0	50.0		Pass
Xylenes	ND	ND	0.00	2170.0	50.0		Pass

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
 1A4010300016315000022443
Metric Sample ID:
 1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007

Residual Solvents Quality Control Data

Solvents QC Analysis Date: 2/20/2020
 Solvents QC Batch ID: RES_021920A

Method: EPA 5021A
 Unit: µg/g (ppm)

Analyte	Blank	LOQ	LCS	LCS Spike	LCS Rec (%)	Limits (%)	Notes
1,4-Dioxane	ND	50.0	1040	1000	104	70 - 130	
2-Butanol	ND	250.0	1010	1000	101	70 - 130	
2-Ethoxyethanol	ND	50.0	981	1000	98.1	70 - 130	
Acetone	ND	250.0	1010	1000	101	70 - 130	
Acetonitrile	ND	50.0	996	1000	99.6	70 - 130	
Benzene	ND	2.0	24.4	20.0	122	70 - 130	
Butanes	ND	250.0	1980	2000	98.9	70 - 130	
Cumene	ND	50.0	1000	1000	100	70 - 130	
Cyclohexane	ND	50.0	1010	1000	101	70 - 130	
Ethyl Acetate	ND	250.0	977	1000	97.7	70 - 130	
Ethyl Ether	ND	250.0	1020	1000	102	70 - 130	
Ethylene Glycol	ND	250.0	899	1000	89.9	70 - 130	
Ethylene Oxide	ND	50.0	964	1000	96.4	70 - 130	
Heptane	ND	250.0	977	1000	97.7	70 - 130	
Hexanes	ND	50.0	4990	5000	99.8	70 - 130	
Isopropanol (2-Propanol)	ND	50.0	1010	1000	101	70 - 130	
Isopropyl Acetate	ND	250.0	1010	1000	101	70 - 130	
Methanol	ND	250.0	1200	1000	120	70 - 130	
Dichloromethane	ND	50.0	1020	1000	102	70 - 130	
Pentanes	ND	250.0	3000	3000	100	70 - 130	
Propane	ND	250.0	1010	1000	101	70 - 130	
Tetrahydrofuran	ND	50.0	1000	1000	100	70 - 130	
Toluene	ND	50.0	1030	1000	103	70 - 130	
Xylenes	ND	50.0	4030	4000	101	70 - 130	

382 - Blueberry Muffins RCO 2.16.20

Farmer's Friend Extracts
6451 NE Colwood Wy
Portland, OR 97218
503-442-8653

Sample Type: Extracts
Sample Date: 2/18/2020
Analysis Date: 2/19/2020
Report Date: 2/20/2020

Metric Batch ID:
1A4010300016315000022443
Metric Sample ID:
1A4010300016315000022508

Harvest/Process Date: 2/16/2020
Report ID: LS-200220-11
Sample Plan ID: SP-200218-1-B
Sample Procedure: 160721_LAB-SOP_SampleCollection-v007

Qualifier Flag Descriptions

J	Reported result is an estimate - the value is less than the minimum calibration level but greater than the estimated detection limit (EDL)
U	The analyte was not detected in the sample at the estimated detection limit (EDL)
E	Exceeds calibration range
D	Dilution data - result was obtained from the analysis of a dilution
B	Analyte found in sample and associated blank
C	Co-eluting compound
R	Relative Percent Difference (RPD) outside control limits
NR	Analyte not reported because of problems in sample preparation or analysis
ND	Non-Detect
X	Results from reinjection/repeat/re-column data
EMC	Estimated maximum possible concentration - indicates that a peak is detected but did not meet the method required criteria
M	Manual integration
PS	Peaks split
HB	Control acceptance criteria are exceeded high and the associated sample is below the detection limit
LB	Control acceptance criteria are exceeded low and the associated sample exceeds the regulatory limit
ME	Marginal Exceedance
LR	Low Recovery Analyte
LOQ	Limit of Quantitation