



DEA No. RA0571996
FL License # CMTL-0003
CLIA No. 10D1094068

Certificate of Analysis

R&D

3 TALL PINES LLC
W6326 COUNTY ROAD Z
PLYMOUTH
PLYMOUTH, WI 53073

Batch # HHC-DI-062222
Batch Date: 2022-06-22
Extracted From: Hemp

Test Reg State: Florida

Order # 3TA220803-020001
Order Date: 2022-08-03
Sample # AADF106

Sampling Date: 2022-08-05
Lab Batch Date: 2022-08-05
Completion Date: 2022-08-12

Initial Gross Weight: 199.657 g



Product Image

Potency Tested	HHC Tested	HHC Metals Passed	2,3-Butanedione Passed	Mycotoxins Passed
Pesticides Passed	Residual Solvents Passed	Pathogenic Microbiology Passed	Listeria Monocytogenes Passed	Vitamin E Passed

Delta 8/Delta 10 Potency
13 + Potency 21 (LCUV)

Tested
SOP13.002 (LCUV)

Specimen Weight: 58.120 mg

Analyte	Dilution (1:n)	LOD (%)	LOQ (%)	Result (mg/g)	(%)
Delta-8 THC	1000.000	2.60E-5	0.0015	310.5500	31.0550
CBN	1000.000	1.40E-5	0.0015	132.3400	13.2340
CBG	1000.000	2.48E-4	0.0015	78.1800	7.8180
Delta-8 THCV	10.000	4.00E-5	0.0015	5.5280	0.5528
CBNA	10.000	9.50E-5	0.0015	3.9620	0.3962
CBT	10.000	2.00E-4	0.0015	3.6280	0.3628
CBC	100.000	1.80E-5	0.0015	2.8600	0.2860
BCA	10.000	1.07E-4	0.0015	0.0785	0.0785
THCV	1000.000	7.00E-6	0.0015	<LOQ	<LOQ
THCVA	10.000	4.70E-5	0.0015	<LOQ	<LOQ
CBDA	1000.000	1.00E-5	0.0015	<LOQ	<LOQ
CBDV	1000.000	6.50E-5	0.0015	<LOQ	<LOQ
CBGA	1000.000	8.00E-5	0.0015	<LOQ	<LOQ
Delta-10 THC	10.000	3.00E-6	0.0015	<LOQ	<LOQ
Exo-THC	10.000	2.30E-4	0.0015	<LOQ	<LOQ
Delta-9 THC-O Acetate	10.000	7.70E-5	0.0003	<LOQ	<LOQ
Delta-9 THC	1000.000	1.30E-5	0.0015	<LOQ	<LOQ
Delta-8 THC-O Acetate	10.000	2.70E-5	0.0003	<LOQ	<LOQ
Delta6a10a-THC	1000.000	8.47E-5	0.0015	<LOQ	<LOQ
THCA	10.000	3.20E-5	0.0015	<LOQ	<LOQ
CBD	1000.000	5.40E-5	0.0015	<LOQ	<LOQ
CBDVA	10.000	1.40E-5	0.0015	<LOQ	<LOQ
CBL	10.000	3.50E-5	0.0015	<LOQ	<LOQ

Potency Summary

Total Delta 8 31.055%	Total Delta 10 None Detected
Total THC None Detected	Total CBD None Detected
Total CBG 7.818%	Total CBN 13.581%
Other Cannabinoids 1.270%	Total Cannabinoids 53.783%

Summary Results determined from two distinct Potency Tests - Delta 8/Delta 10 Potency 13 + Potency 21 (LCUV)

Xueli Gao
Ph.D., DABT
Lab Toxicologist

Aixia Sun
D.H.Sc., M.Sc., B.Sc., MT (AAB)
Lab Director/Principal Scientist



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Completion Date: 2022-08-12

Initial Gross Weight: 199.657 g

Pesticides FL V4 **Passed**
SOP13.007 (LCMS/GCMS)
Specimen Weight: 264.200 mg

Dilution Factor: 5.680

Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Abamectin	2.8800E-1	28.23	300	<LOQ	Fludioxonil	1.7400E+0	48	3000	<LOQ
Acephate	2.3000E-2	30	3000	<LOQ	Hexythiazox	4.9000E-2	30	2000	<LOQ
Acequinocyl	9.5640E+0	48	2000	<LOQ	Imazalil	2.4800E-1	30	100	<LOQ
Acetamiprid	5.2000E-2	30	3000	<LOQ	Imidacloprid	9.4000E-2	30	3000	<LOQ
Aldicarb	2.6000E-2	30	100	<LOQ	Kresoxim Methyl	4.2000E-2	30	1000	<LOQ
Azoxystrobin	8.1000E-2	10	3000	<LOQ	Malathion	8.2000E-2	30	2000	<LOQ
Bifenazate	1.4150E+0	30	3000	<LOQ	Metalaxyl	8.1000E-2	10	3000	<LOQ
Bifenthrin	4.3000E-2	30	500	<LOQ	Methiocarb	3.2000E-2	30	100	<LOQ
Boscalid	5.5000E-2	10	3000	<LOQ	Methomyl	2.2000E-2	30	100	<LOQ
Captan	6.1200E+0	30	3000	<LOQ	methyl-Parathion	1.7100E+0	10	100	<LOQ
Carbaryl	2.2000E-2	10	500	<LOQ	Mevinphos	2.1500E+0	10	100	<LOQ
Carbofuran	3.4000E-2	10	100	<LOQ	Myclobutanil	1.0290E+0	30	3000	<LOQ
Chlorantraniliprole	3.3000E-2	10	3000	<LOQ	Naled	9.5000E-2	30	500	<LOQ
Chlorfane	1.0000E+1	10	100	<LOQ	Oxamyl	2.5000E-2	30	500	<LOQ
Chlorfenapyr	3.4000E-2	30	100	<LOQ	Pacllobutrazol	6.5000E-2	30	100	<LOQ
Chlomequat Chloride	1.0800E-1	10	3000	<LOQ	Pentachloronitrobenzene	1.3200E+0	10	200	<LOQ
Chlorpyrifos	3.5000E-2	30	1000	<LOQ	Pemethrin	3.4300E-1	30	1000	<LOQ
Clofentezine	1.1900E-1	30	500	<LOQ	Phosmet	8.2000E-2	30	200	<LOQ
Coumaphos	3.7700E+0	48	100	<LOQ	Piperonylbutoxide	2.9000E-2	30	3000	<LOQ
Cyfluthrin	3.1100E+0	30	1000	<LOQ	Prallethrin	7.9800E-1	30	400	<LOQ
Cypermethrin	1.4490E+0	30	1000	<LOQ	Propiconazole	7.0000E-2	30	1000	<LOQ
Daminozide	8.8500E-1	30	100	<LOQ	Propoxur	4.6000E-2	30	100	<LOQ
Diazinon	4.4000E-2	30	200	<LOQ	Pyrethrins	2.3593E+1	30	1000	<LOQ
Dichlorvos	2.1820E+0	30	100	<LOQ	Pyridaben	3.2000E-2	30	3000	<LOQ
Dimethoate	2.1000E-2	30	100	<LOQ	Spinetoram	8.0000E-2	10	3000	<LOQ
Dimethomorph	5.8300E+0	48	3000	<LOQ	Spinosad	8.8000E-2	30	3000	<LOQ
Ethoprophos	3.6000E-1	30	100	<LOQ	Spiromesifen	2.6100E-1	30	3000	<LOQ
Etofenprox	1.1600E-1	30	100	<LOQ	Spirotetramat	8.9000E-2	30	3000	<LOQ
Etoxazole	9.5000E-2	30	1500	<LOQ	Spiroxamine	1.3100E-1	30	100	<LOQ
Fenhexamid	5.1000E-1	10	3000	<LOQ	Tebuconazole	6.7000E-2	30	1000	<LOQ
Fenoxycarb	1.0700E-1	30	100	<LOQ	Thiacloprid	6.4000E-2	30	100	<LOQ
Fenpyroximate	1.3800E-1	30	2000	<LOQ	Thiamethoxam	5.0000E-2	30	1000	<LOQ
Fipronil	1.0700E-1	30	100	<LOQ	Trifloxystrobin	3.7000E-2	30	3000	<LOQ
Fonicamid	5.1700E-1	30	2000	<LOQ					

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Xueli Gao Lab Toxicologist
Ph.D., DABT

Aixia Sun
Aixia Sun Lab Director/Principal Scientist
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Residual Solvents - FL (CBD)

Specimen Weight: 12.300 mg

Dilution Factor: 1.000

Analyte	LOD (ppm)	LOQ (ppm)	Action Level (ppm)	Result (ppm)	Analyte	LOD (ppm)	LOQ (ppm)	Action Level (ppm)	Result (ppm)
1,1-Dichloroethene	0.0094	0.16	8	<LOQ	Heptane	0.0013	1.39	5000	<LOQ
1,2-Dichloroethane	0.0003	0.04	5	<LOQ	Hexane	0.068	1.17	290	<LOQ
Acetone	0.015	2.08	5000	<LOQ	Isopropyl alcohol	0.0048	1.39	500	<LOQ
Acetonitrile	0.06	1.17	410	<LOQ	Methanol	0.0005	0.69	3000	<LOQ
Benzene	0.0002	0.02	2	<LOQ	Methylene chloride	0.0029	2.43	600	<LOQ
Butanes	0.4167	2.5	2000	<LOQ	Pentane	0.037	2.08	5000	53.545
Chloroform	0.0001	0.04	60	<LOQ	Propane	0.031	5.83	2100	<LOQ
Ethanol	0.0021	2.78	5000	<LOQ	Toluene	0.0009	2.92	890	<LOQ
Ethyl Acetate	0.0012	1.11	5000	<LOQ	Total Xylenes	0.0001	2.92	2170	<LOQ
Ethyl Ether	0.0049	1.39	5000	<LOQ	Trichloroethylene	0.0014	0.49	80	<LOQ
Ethylene Oxide	0.0038	0.1	5	<LOQ					

Passed
SOP13.039 (GCMS)



Pathogenic Microbiology SAE (MicroArray)

Passed
SOP13.019
(Micro Array)

Specimen Weight: 1027.660 mg

Dilution Factor: 1.000

Analyte	Result (cfu/g)	Analyte	Result (cfu/g)
Aspergillus flavus	Absence in 1g	Aspergillus terreus	Absence in 1g
Aspergillus fumigatus	Absence in 1g	Salmonella	Absence in 1g
Aspergillus niger	Absence in 1g	STEC E. Coli	Absence in 1g

Vitamin E (Tocopheryl Acetate)

Passed
SOP13.007 (LC-MS)

Specimen Weight: 264.200 mg

Dilution Factor: 5.680

Analyte	LOD (ppb)	Result (ppb)
Vitamin E Acetate	.705	<LOQ

HHC Metals

Specimen Weight: 250.010 mg

Dilution Factor: 199.992

Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Arsenic (As)	1.9E-2	100	200	<LOQ	Nickel (Ni)	1.5E-1	250	500	<LOQ
Cadmium (Cd)	4.0E-3	100	200	<LOQ	Palladium (Pd)	7.0E-3	50	100	<LOQ
Lead (Pb)	1.0E-2	100	500	<LOQ	Platinum (Pt)	1.3E-2	50	100	<LOQ
Mercury (Hg)	4.4E-2	100	200	<LOQ	Zinc (Zn)	4.1E-1	1000	na	<LOQ

Passed
13.051 (ICP-MS)

Mycotoxins

Specimen Weight: 264.200 mg

Dilution Factor: 5.680

Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)	Analyte	LOD (ppb)	LOQ (ppb)	Action Level (ppb)	Result (ppb)
Aflatoxin B1	3.0400E-1	6	20	<LOQ	Aflatoxin G2	2.7100E-1	6	20	<LOQ
Aflatoxin B2	7.7000E-2	6	20	<LOQ	Ochratoxin A	7.5400E-1	12	20	<LOQ
Aflatoxin G1	3.0400E-1	6	20	<LOQ					

Passed
SOP13.007 (LCMS)

HHC

Specimen Weight: 58.120 mg

Dilution Factor: 1.000

Analyte	LOD (%)	LOQ (%)	Result (mg/g)	(%)	Analyte	LOD (%)	LOQ (%)	Result (mg/g)	(%)
(9R)-HHC	3.1100E-7	7.5E-5	153.0000	15.3	(±)-9β-hydroxy-HHC	4.5800E-7	7.5E-5	0.9020	0.0902
(9S)-HHC	8.7400E-7	7.5E-5	74.7000	7.47	Total HHC		7.5E-5	228.6020	22.8602

Tested
SOP13.050 (LCMS)



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2,3-butanedione(Diacetyl)

Specimen Weight: 12.300 mg

Passed
SOP13.039 (GCMS)

Dilution Factor: 1.000

Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)
2,3-Butanedione	.024	0.024	<LOQ



Listeria Monocytogenes

Specimen Weight: 984.900 mg

Passed
SOP13.010 (qPCR)

Dilution Factor: 1.000

Analyte	Action Level (cfu/g)	Result
Listeria Monocytogenes	1	Absence in 1g

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Xueli Gao Lab Toxicologist
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