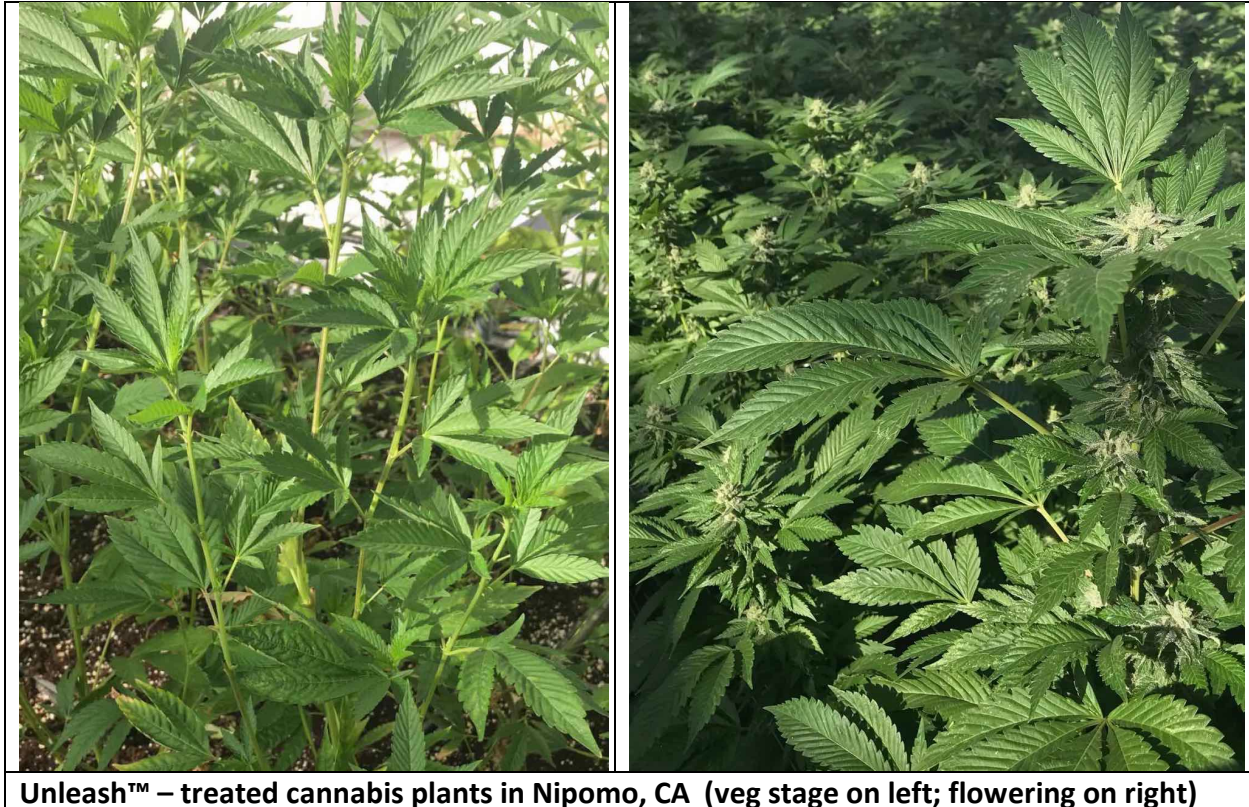


February 8, 2019

Evidence of Increased THC in Cannabis Plants Treated with Unleash™



Unleash™ – treated cannabis plants in Nipomo, CA (veg stage on left; flowering on right)

I. Introduction

The state of California is the leading marijuana-producing state for both medical and recreational use in the United States, according to nationwide estimates. With the legalization of medical and recreational Cannabis use in California and many other states, the market for marijuana is rapidly expanding.



From September 2017 through November 2017 a study was done with a Cannabis grower located in Salinas, CA to test the effect of Unleash™ root inoculant treatment on THC levels on Cannabis varietal “Mango”. From October 2018 through January 2019 a second study was done with a different Cannabis grower located in Nipomo, CA to test the effect of Unleash™ root inoculant treatment on THC levels on a boutique Cannabis varietal “NA OG”.



II. Test Process

- Unleash™ application regimen for both the “Mango” and “NA OG” varieties:
 - Plants were grown indoors in 5 gallon-size containers of soil.
 - Unleash™ was applied every 2 weeks.
 - Every application consisted of mixing 1 mL Unleash™ per gallon of water, with 32 ounces of Unleash™/water mixture applied per plant, for a total of 0.25 mL Unleash™ applied per plant.
- Unleash™ application began on plants in the early vegetative stage of growth, and finished near the end of the flowering stage of growth.
- Cannabinoid tests of Unleash® - treated and untreated Cannabis harvests were done by SC Laboratories™, 100 Pioneer St, Santa Cruz, CA 95060.

III. Results

Cannabinoid Test Results on Unleash™ – treated (L) and Untreated (R) Mango Cannabis	
	
Sample Name: Mango Unleash Tested for: ██████████ Sample ID: 170928S026 Date Submitted: 09/28/2017 Sample Type: Flower	Sample Name: Mango Tested for: ██████████ Sample ID: 171120U065 Date Submitted: 11/21/2017 Sample Type: Flower
Total Sample Weight: 1 Gram	Total Sample Weight: 1 Gram
Cannabinoid Test Results	Cannabinoid Test Results
Cannabinoid analysis utilizing High Performance Liquid Chromatography (HPLC, QSP 5-4-4-4)	
Cannabinoid Summary	Cannabinoid Summary
Total THC Δ9THC+THCa 27.48 % Total Potential Δ9THC 241.88 mg/g 24.19 % Total CBD CBD+CBDA 0.09 % Total Potential CBD 0.79 mg/g 0.08 %	Total THC Δ9THC+THCa 19.62 % Total Potential Δ9THC 172.74 mg/g 17.27 % Total CBD CBD+CBDA 0.05 % Total Potential CBD 0.44 mg/g 0.04 %

Cannabinoid Test Results on Unleash™ – treated (L) and Untreated (R) NA OG Cannabis



C

Sample Name: NA OG Unleash
 LIMS Sample ID: 190123Q002
 Batch #:
 Sample Metric ID:
 Sample Type: Flower, Inhalable
 Batch Weight:
 Sample Weight:
 Unit Mass:
 Serving Mass:

Moisture Test Results

Moisture %
 NT

Cannabinoid Test Results

01/24/2019

Cannabinoid analysis utilizing High Performance Liquid Chromatography (HPLC, QSP 5-4-4-4)

	mg/g	%	LOD mg/g	LOQ mg/g
THC	2.6	0.26	0.003	0.1
THCa	167.5	16.75	0.006	0.1
CBD	ND	ND	0.007	0.1
CBDa	0.2	0.02	0.005	0.1
CBN	ND	ND	0.003	0.1
CBDV	ND	ND	0.003	0.1
CBDVa	ND	ND	0.003	0.1
CBG	0.7	0.07	0.006	0.1
CBGa	4.3	0.43	0.004	0.1
THCV	ND	ND	0.005	0.1
Δ8 - THC	ND	ND	0.009	0.1
CBC	ND	ND	0.006	0.1

Sum of Cannabinoids: 175.3 17.53

Total THC ($\Delta^9\text{THC} + 0.877 \cdot \text{THCa}$) 149.5 14.95
 Total CBD ($\text{CBD} + 0.877 \cdot \text{CBDa}$) 0.2 0.02



C

Sample Name: NA OG Control
 LIMS Sample ID: 190123Q001
 Batch #:
 Sample Metric ID:
 Sample Type: Flower, Inhalable
 Batch Weight:
 Sample Weight:
 Unit Mass:
 Serving Mass:

Moisture Test Results

Moisture %
 NT

Cannabinoid Test Results

01/24/2019

Cannabinoid analysis utilizing High Performance Liquid Chromatography (HPLC, QSP 5-4-4-4)

	mg/g	%	LOD mg/g	LOQ mg/g
THC	2.3	0.23	0.003	0.1
THCa	147.6	14.76	0.006	0.1
CBD	ND	ND	0.007	0.1
CBDa	0.3	0.03	0.005	0.1
CBN	ND	ND	0.003	0.1
CBDV	ND	ND	0.003	0.1
CBDVa	ND	ND	0.003	0.1
CBG	0.6	0.06	0.006	0.1
CBGa	3.9	0.39	0.004	0.1
THCV	ND	ND	0.005	0.1
Δ8 - THC	ND	ND	0.009	0.1
CBC	ND	ND	0.006	0.1

Sum of Cannabinoids: 154.7 15.47

Total THC ($\Delta^9\text{THC} + 0.877 \cdot \text{THCa}$) 131.7 13.17
 Total CBD ($\text{CBD} + 0.877 \cdot \text{CBDa}$) 0.3 0.03



Table 1. THC Test Results on Unleash™-Treated and Untreated Harvests

	Unleash™	Control	Difference
Mango Total THC (%)	27.48	19.62	+40.1%
NA OG Total THC (%)	14.95	13.17	+13.5%

IV. Conclusions

- Unleash™ treatment has significantly increased THC levels for several different *Cannabis* varieties. This case study presents the results on two separate varieties from two California growers that AquaBella Organic Solutions has worked with.
- **There was a 40.1% increase in the total THC level of Unleash™-treated flowers over untreated flowers for Cannabis variety “Mango”.**
- **There was a 13.5% increase in the total THC levels of Unleash™-treated flowers over untreated flowers for Cannabis variety “NA OG”.**
- Unleash™ is a root inoculant treatment that is easy to apply, and can significantly improve the quality of your Cannabis harvest. For more information, contact us at
Ph: (888) 285-7665
Email: sales@aquabellaorganics.com.