



HOP CERTIFICATE OF ANALYSIS

Customer : Gorst Valley Hops

Sample ID: GV21ND01 Northern Discovery



Variety: Northern Discovery

Certifying Officer: Zach Lilla - Lab Manager

Date : 11/5/2021

TTB Certified Chemist - Member AOAC - ASBC - BJCP

Method			
Hops-4C	Moisture Analysis	% Moisture	10.7
		% Dry Matter	89.3
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.302
Hops-13	Essential Oil by Steam Distillation	mL/100g	0.44
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	55.1 (% of Total AA)
ICE-3		% Alpha Acids	8.07
		Colupulone	78.0 (% of Total BA)
		% Beta Acids	3.92
		a/b ratio	2.06
Hops-17	Hop Essential Oil by GC-FID (as is)		
		% area	mg/100g
		B-Pinene	NT NT
		Myrcene	NT NT
		Linalool	NT NT
		Caryophyllene	NT NT
		Farnesene	NT NT
		Humulene	NT NT
		Geraniol	NT NT

NT=NOT TESTED

Signed: 
 Zachary Lilla - Lab Manager - TTB Certified Chemist





HOP QUALITY REPORT

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% Moisture	<input type="text" value="10.7"/>	Typical Range 8 - 12%	<input type="text" value="✓"/>
Total Oil ml/100g @ 10%	<input type="text" value="0.44"/>	0.4 - 0.8 mL	<input type="text" value="✓"/>
cohumulone	<input type="text" value="55.1"/>	48 - 54%	<input type="text" value="↑"/>
Alpha Acids @ 10%	<input type="text" value="8.13"/>	7.0 - 9%	<input type="text" value="✓"/>
Beta Acids @ 10%	<input type="text" value="3.96"/>	4.0 - 6.0%	<input type="text" value="↓"/>
AROMA QUALITY (AQ)			
	% Area		
B-Pinene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
	mg/mL		
B-Pinene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
	mg/100g @ 10% Moisture		
B-Pinene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0	<input type="text" value="NT"/>

Signed: 
 Zachary Lilla - Lab Manager - TTB Certified Chemist