



# HOP CERTIFICATE OF ANALYSIS

Customer : Wisconsin Hop Exchange

Sample ID: 21SAZ1104-01LH



Variety: Saaz

Certifying Officer: Zach Lilla - Lab Manager

Date : 12/8/2021

TTB Certified Chemist - Member AOAC - ASBC - BJCP

Method			
Hops-4C	Moisture Analysis	% Moisture	11.9
		% Dry Matter	88.1
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.287
Hops-13	Essential Oil by Steam Distillation	mL/100g	1.56
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	34.8 (% of Total AA)
ICE-3		% Alpha Acids	6.07
		Colupulone	51.2 (% of Total BA)
		% Beta Acids	6.39
		a/b ratio	0.95
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="11.9"/>	Typical Range 8 - 12%	<input type="text" value="✓"/>
Total Oil ml/100g @ 10%	<input type="text" value="1.59"/>	0.4 - 0.8 mL	<input type="text" value="↑"/>
cohumulone	<input type="text" value="34.8"/>	23 - 26%	<input type="text" value="↑"/>
Alpha Acids @ 10%	<input type="text" value="6.20"/>	2.5 - 4.5%	<input type="text" value="↑"/>
Beta Acids @ 10%	<input type="text" value="6.53"/>	4.0 - 6.0%	<input type="text" value="↑"/>
<b>AROMA QUALITY (AQ)</b>			
	% Area		
B-Pinene	<input type="text" value="NT"/>	0.30 - 0.90 %	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	26.00 - 40.00 %	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	0.30 - 0.70 %	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	6.00 - 9.00 %	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	14.00 - 20.00 %	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	15.00 - 30.00 %	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0.01 - 2.00 %	<input type="text" value="NT"/>
	mg/mL		
B-Pinene	<input type="text" value="NT"/>	3 - 9	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	260 - 400	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	3 - 7	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	60 - 90	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	140 - 200	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	150 - 300	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0.1 - 20	<input type="text" value="NT"/>
	mg/100g @ 10% Moisture		
B-Pinene	<input type="text" value="NT"/>	1.2 - 7.2	<input type="text" value="NT"/>
Myrcene	<input type="text" value="NT"/>	104 - 320	<input type="text" value="NT"/>
Linalool	<input type="text" value="NT"/>	1.2 - 5.6	<input type="text" value="NT"/>
Caryophyllene	<input type="text" value="NT"/>	24 - 72	<input type="text" value="NT"/>
Farnesene	<input type="text" value="NT"/>	56 - 160	<input type="text" value="NT"/>
Humulene	<input type="text" value="NT"/>	60 - 240	<input type="text" value="NT"/>
Geraniol	<input type="text" value="NT"/>	0.04 - 16	<input type="text" value="NT"/>

Signed:   
 Zachary Lilla - Lab Manager - TTB Certified Chemist