

HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 22ZEU02WI-01LH

Variety: Zeus

Whole Cone

Date : 1/11/2023

Pellet



Certifying Officer: Zach Lilla - Lab Manager
 TTB Certified Chemist - Member AOAC - ASBC - BJCP

<u>Method</u>			
Hops-4C	Moisture Analysis	% Moisture	9.8
		% Dry Matter	90.2
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.295
Hops-13	Essential Oil by Steam Distillation	mL/100g	1.18
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	35.0 (% of Total AA)
ICE-3		% Alpha Acids	7.77
		Colupulone	61.7 (% of Total BA)
		% Beta Acids	3.29
		a/b ratio	2.37
Hops-17	Hop Essential Oil by GC-FID (as is)	% area	mg/100g
		B-Pinene	NT
		Myrcene	NT
		Linalool	NT
		Caryophyllene	NT
		Farnesene	NT
		Humulene	NT
		Geraniol	NT

NT=NOT TESTED

Signed: _____

Zachary Lilla - Lab Manager - TTB Certified Chemist
 AAR LAB - ADVANCED ANALYTICAL RESEARCH
 2517 Advance Rd Ste. A Madison WI 53718



AROMA QUALITY (AQ) HOP QUALITY REPORT



Customer : Wisconsin Hop Exchange

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	Typical Range		
% Moisture <input style="width: 100px;" type="text" value="9.8"/>	8 - 12%	<input checked="" type="checkbox"/>	
HOP QUALITY (adjusted to 10% moisture)			
Total Oil ml/100g <input style="width: 100px;" type="text" value="1.18"/>	2.5 - 4.5 mL	<input type="text" value="↓"/>	
cohumulone <input style="width: 100px;" type="text" value="35.0"/>	26 - 31%	<input type="text" value="↑"/>	
Alpha Acids <input style="width: 100px;" type="text" value="7.76"/>	13.5 - 17.5%	<input type="text" value="↓"/>	
Beta Acids <input style="width: 100px;" type="text" value="3.28"/>	4.0 - 5.5%	<input type="text" value="↓"/>	
AROMA QUALITY (AQ)			
	% Area	mg/mL of Hop Oil	mg/100g of Hops (@10%H2O)
B-Pinene	NT 0.50 - 1.10 %	NT 5 - 11	NT 12.5 - 49.5
Myrcene	NT 45.00 - 55.00 %	NT 450 - 550	NT 1125 - 2475
Linalool	NT 0.30 - 0.70 %	NT 3 - 7	NT 7.5 - 31.5
Caryophyllene	NT 6.00 - 10.00 %	NT 60 - 100	NT 150 - 450
Farnesene	NT 0.01 - 1.00 %	NT 0.1 - 10	NT 0.25 - 45
Humulene	NT 9.00 - 14.00 %	NT 90 - 140	NT 225 - 630
Geraniol	NT 0.10 - 0.60 %	NT 1 - 6	NT 2.5 - 27
AQ vs VARIETY SPECS			
Aroma Intensity= 100			
AQ vs ALL HOP VARIETIES			
Aroma Intensity= 100			

Zach Lilla

Signed: _____
Zachary Lilla - Lab Manager - TTB Certified Chemist

