

HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 23COM03WI-01LH

Variety: Comet

Product: T-90 Pellet

Date : 12/4/2023



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

<u>Method</u>			
Hops-4C	Moisture Analysis	% Moisture	10.8
		% Dry Matter	89.2
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.270
Hops-13	Essential Oil by Steam Distillation	mL/100g	1.80
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	36.2 (% of Total AA)
ICE-3		% Alpha Acids	9.43
		Colupulone	60.6 (% of Total BA)
		% Beta Acids	3.77
		a/b ratio	2.50
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



AROMA QUALITY (AQ)

HOP QUALITY REPORT



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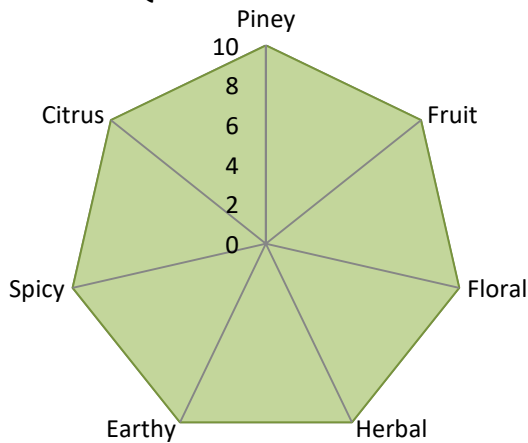
Certifying Officer: Zach Lilla - Lab Manager
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		Typical Range	
% Moisture	10.8	8 - 12 %	<input checked="" type="checkbox"/>
HOP QUALITY (adjusted to 10% moisture)			
Total Oil ml/100g	1.82	1.2 - 2.0 mL	<input checked="" type="checkbox"/>
cohumulone	36.2	34 - 37%	<input checked="" type="checkbox"/>
Alpha Acids	9.52	8.0 - 10.5%	<input checked="" type="checkbox"/>
Beta Acids	3.80	4.0 - 5.0%	<input type="checkbox"/>
Myrcene	NT	40.00 - 55.00 %	<input type="checkbox"/>

AROMA QUALITY (AQ)

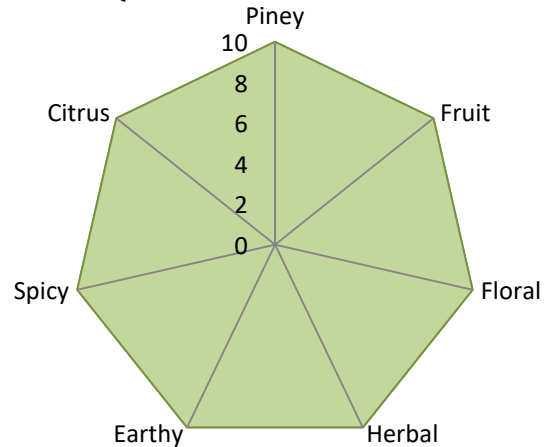
		% Area	mg/mL of Hop Oil		mg/100g of Hops (@10%H2O)	
B-Pinene	NT	0.70 - 1.20 %	NT	7 - 12	NT	8.4 - 24
Myrcene	NT	40.00 - 55.00 %	NT	400 - 550	NT	480 - 1100
Linalool	NT	0.50 - 0.80 %	NT	5 - 8	NT	6 - 16
Caryophyllene	NT	10.00 - 15.00 %	NT	100 - 150	NT	120 - 300
Farnesene	NT	0.01 - 1.00 %	NT	0.1 - 10	NT	0.12 - 20
Humulene	NT	1.00 - 2.00 %	NT	10 - 20	NT	12 - 40
Geraniol	NT	0.20 - 0.90 %	NT	2 - 9	NT	2.4 - 18

AQ vs VARIETY SPECS



Aroma Intensity= 100

AQ vs ALL HOP VARIETIES



Aroma Intensity= 100

Signed: _____

Zachary Lilla - Lab Manager - TTB Certified Chemist

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