

HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 25COM02WI-01FB

Variety: Comet

Product: T-90 Pellet

Date : 2/23/2026



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

<u>Method</u>			
Hops-4C	Moisture Analysis	% Moisture	11.7
		% Dry Matter	88.3
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.285
Hops-13	Essential Oil by Steam Distillation	mL/100g	1.99
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	37.0 (% of Total AA)
ICE-3		% Alpha Acids	10.69
		Colupulone	60.1 (% of Total BA)
		% Beta Acids	3.61
		a/b ratio	2.97
Hops-17	Hop Essential Oil by GC-FID (as is)	% area	mg/100g
		B-Pinene	0.64 12.59
		Myrcene	49.61 1101.57
		Linalool	0.40 9.16
		Caryophyllene	12.57 256.31
		Farnesene	0.30 7.56
		Humulene	2.42 48.84
		Geraniol	0.38 8.72

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



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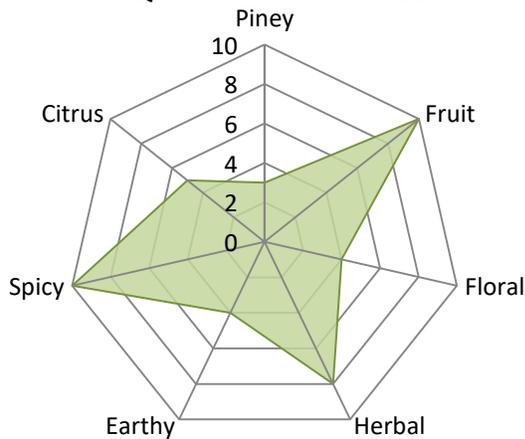
Certifying Officer: Zach Lilla - Lab Manager
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	Typical Range	
% Moisture <input style="width: 100px;" type="text" value="11.7"/>	8 - 12 %	<input checked="" type="checkbox"/>
HOP QUALITY (adjusted to 10% moisture)		
Total Oil ml/100g <input style="width: 100px;" type="text" value="2.03"/>	1.2 - 2.0 mL	<input type="checkbox" value="↑"/>
cohumulone <input style="width: 100px;" type="text" value="37.0"/>	34 - 37%	<input type="checkbox" value="↑"/>
Alpha Acids <input style="width: 100px;" type="text" value="10.90"/>	8.0 - 10.5%	<input type="checkbox" value="↑"/>
Beta Acids <input style="width: 100px;" type="text" value="3.67"/>	4.0 - 5.0%	<input type="checkbox" value="↓"/>
Myrcene <input style="width: 100px;" type="text" value="49.61"/>	40.00 - 55.00 %	<input checked="" type="checkbox"/>

AROMA QUALITY (AQ)

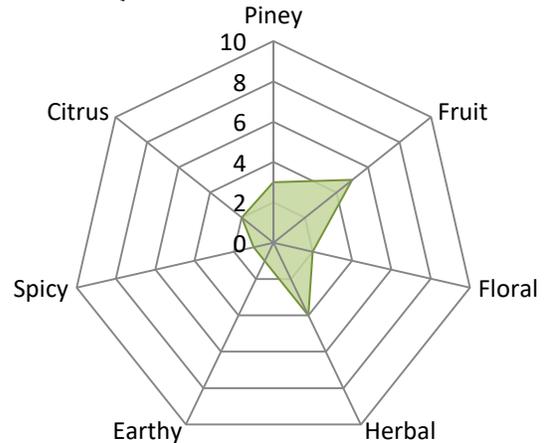
	% Area		mg/mL of Hop Oil			mg/100g of Hops (@10%H2O)			
B-Pinene	0.64	0.70 - 1.20 %	↓	6.32	7 - 12	↓	12.84	8.4 - 24	<input checked="" type="checkbox"/>
Myrcene	49.61	40.00 - 55.00 %	<input checked="" type="checkbox"/>	552.71	400 - 550	↑	1122.95	480 - 1100	<input type="checkbox" value="↑"/>
Linalool	0.40	0.50 - 0.80 %	↓	4.60	5 - 8	↓	9.34	6 - 16	<input checked="" type="checkbox"/>
Caryophyllene	12.57	10.00 - 15.00 %	<input checked="" type="checkbox"/>	128.60	100 - 150	<input checked="" type="checkbox"/>	261.28	120 - 300	<input checked="" type="checkbox"/>
Farnesene	0.30	0.01 - 1.00 %	<input checked="" type="checkbox"/>	3.80	0.1 - 10	<input checked="" type="checkbox"/>	7.71	0.12 - 20	<input checked="" type="checkbox"/>
Humulene	2.42	1.00 - 2.00 %	↑	24.51	10 - 20	↑	49.79	12 - 40	<input type="checkbox" value="↑"/>
Geraniol	0.38	0.20 - 0.90 %	<input checked="" type="checkbox"/>	4.38	2 - 9	<input checked="" type="checkbox"/>	8.89	2.4 - 18	<input checked="" type="checkbox"/>

AQ vs VARIETY SPECS



Aroma Intensity= 34

AQ vs ALL HOP VARIETIES



Aroma Intensity= 7

Signed: _____

Zachary Lilla - Lab Manager - TTB Certified Chemist

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