

HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 25SAZ1100-01FB

Variety: Saaz

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	12.8
		% Dry Matter	87.2
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.299
Hops-13	Essential Oil by Steam Distillation	mL/100g	0.48
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	28.2 (% of Total AA)
ICE-3		% Alpha Acids	3.91
		Colupulone	43.8 (% of Total BA)
		% Beta Acids	3.52
		a/b ratio	1.11
Hops-17	Hop Essential Oil by GC-FID (as is)	% area	mg/100g
		B-Pinene	0.31 0.89
		Myrcene	30.86 100.76
		Linalool	0.61 2.05
		Caryophyllene	7.27 21.81
		Farnesene	13.74 50.78
		Humulene	19.08 56.71
		Geraniol	0.24 0.81

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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	Typical Range		
% Moisture <input style="width: 100px;" type="text" value="12.8"/>	8 - 12 %	<input style="width: 50px;" type="text" value="↑"/>	
HOP QUALITY (adjusted to 10% moisture)			
Total Oil ml/100g <input style="width: 100px;" type="text" value="0.50"/>	0.4 - 0.8 mL	<input style="width: 50px;" type="text" value="✓"/>	
cohumulone <input style="width: 100px;" type="text" value="28.2"/>	23 - 26%	<input style="width: 50px;" type="text" value="↑"/>	
Alpha Acids <input style="width: 100px;" type="text" value="4.04"/>	2.5 - 4.5%	<input style="width: 50px;" type="text" value="✓"/>	
Beta Acids <input style="width: 100px;" type="text" value="3.63"/>	4.0 - 6.0%	<input style="width: 50px;" type="text" value="↓"/>	
Myrcene <input style="width: 100px;" type="text" value="30.86"/>	26.00 - 40.00 %	<input style="width: 50px;" type="text" value="✓"/>	
AROMA QUALITY (AQ)			
	% Area	mg/mL of Hop Oil	mg/100g of Hops (@10%H2O)
B-Pinene	0.31 0.30 - 0.90 %	1.85 3 - 9	0.92 1.2 - 7.2
Myrcene	30.86 26.00 - 40.00 %	207.91 260 - 400	104.01 104 - 320
Linalool	0.61 0.30 - 0.70 %	4.24 3 - 7	2.12 1.2 - 5.6
Caryophyllene	7.27 6.00 - 9.00 %	45.00 60 - 90	22.51 24 - 72
Farnesene	13.74 14.00 - 20.00 %	104.77 140 - 200	52.42 56 - 160
Humulene	19.08 15.00 - 30.00 %	117.03 150 - 300	58.55 60 - 240
Geraniol	0.24 0.01 - 2.00 %	1.67 0.1 - 20	0.84 0.04 - 16
	✓	↓	↓
	✓	↓	✓
	✓	✓	✓
	✓	↓	↓
	↓	↓	↓
	✓	↓	↓
	✓	✓	✓

AQ vs VARIETY SPECS

Aroma Intensity= 2

AQ vs ALL HOP VARIETIES

Aroma Intensity= 1

Signed:
Zachary Lilla - Lab Manager - TTB Certified Chemist

