

## HOP QUALITY REPORT CERTIFICATE OF ANALYSIS



To: Fine Bine Farms

Sample ID: 23VTA1013-01FB

Variety: Vista

Product: T-90 Pellet

Date : 10/18/2023

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		<b>NT</b> mg/g
Hops-12	Hop Storage Index	HSI	0.270
Hops-13	Essential Oil by Steam Distillation	mL/100g	<b>2.18</b>
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	32.5 (% of Total AA)
ICE-3		<b>% Alpha Acids</b>	<b>11.31</b>
		Colupulone	61.3 (% of Total BA)
		<b>% Beta Acids</b>	<b>4.55</b>
		a/b ratio	2.49
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 : Fine Bine Farms

Sample ID: 23VTA1013-01FB

Variety: Vista

Product: T-90 Pellet

Date : 10/18/2023



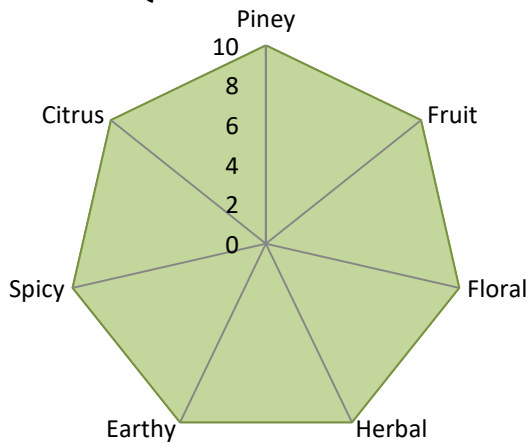
Certifying Officer: Zach Lilla - Lab Manager  
TTB Certified Chemist - Member AOAC - ASBC - BJCP

	Typical Range	
% Moisture <input style="width: 80px;" type="text" value="10.8"/>	8 - 12 %	<input checked="" type="checkbox"/>
<b>HOP QUALITY (adjusted to 10% moisture)</b>		
Total Oil ml/100g <input style="width: 80px;" type="text" value="2.21"/>	0.8 - 2.0 ml	<input type="text" value="↑"/>
cohumulone <input style="width: 80px;" type="text" value="32.5"/>	29 - 34%	<input checked="" type="checkbox"/>
Alpha Acids <input style="width: 80px;" type="text" value="11.41"/>	11 - 12%	<input checked="" type="checkbox"/>
Beta Acids <input style="width: 80px;" type="text" value="4.59"/>	3.5 - 5.5%	<input checked="" type="checkbox"/>
Myrcene <input style="width: 80px;" type="text" value="NT"/>	30.00 - 40.00 %	<input type="text"/>

### AROMA QUALITY (AQ)

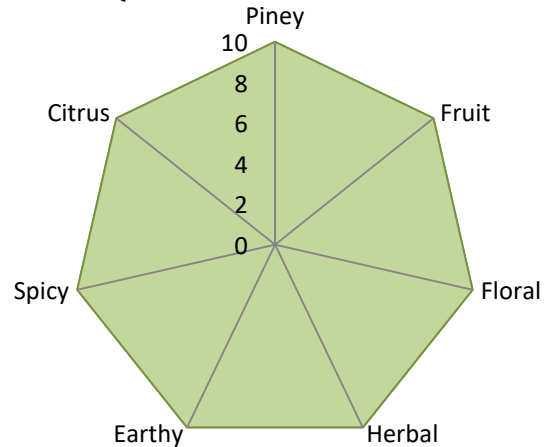
	% Area		mg/mL of Hop Oil		mg/100g of Hops (@10%H2O)	
	NT	Range	NT	Range	NT	Range
B-Pinene	NT	0.20 - 0.60 %	NT	2 - 6	NT	1.6 - 12
Myrcene	NT	30.00 - 40.00 %	NT	300 - 400	NT	240 - 800
Linalool	NT	0.40 - 0.80 %	NT	4 - 8	NT	3.2 - 16
Caryophyllene	NT	10.00 - 14.00 %	NT	100 - 140	NT	80 - 280
Farnesene	NT	0.10 - 1.00 %	NT	1 - 10	NT	0.8 - 20
Humulene	NT	18.00 - 22.00 %	NT	180 - 220	NT	144 - 440
Geraniol	NT	0.40 - 1.00 %	NT	4 - 10	NT	3.2 - 20

#### 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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