

## HOP QUALITY REPORT CERTIFICATE OF ANALYSIS



To: Fine Bine Farms

Sample ID: 24ZEU1013-01FB

Variety: Zeus

Product: T-90 Pellet

Date : 10/17/2024

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

<u>Method</u>			
Hops-4C	Moisture Analysis	% Moisture	10.1
		% Dry Matter	89.9
AAR	Xanthohumol by HPLC		<b>NT</b> mg/g
Hops-12	Hop Storage Index	HSI	0.269
Hops-13	Essential Oil by Steam Distillation	mL/100g	<b>3.79</b>
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	33.3 (% of Total AA)
ICE-3		<b>% Alpha Acids</b>	<b>17.79</b>
		Colupulone	60.3 (% of Total BA)
		<b>% Beta Acids</b>	<b>5.49</b>
		a/b ratio	3.24
Hops-17	Hop Essential Oil by GC-FID (as is)	<b>% area</b>	<b>mg/100g</b>
		B-Pinene	NT NT
		Myrcene	NT NT
		Linalool	NT NT
		Caryophyllene	NT NT
		Farnesene	NT NT
		Humulene	NT NT
		Geraniol	NT 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: 24ZEU1013-01FB

Variety: Zeus

Product: T-90 Pellet

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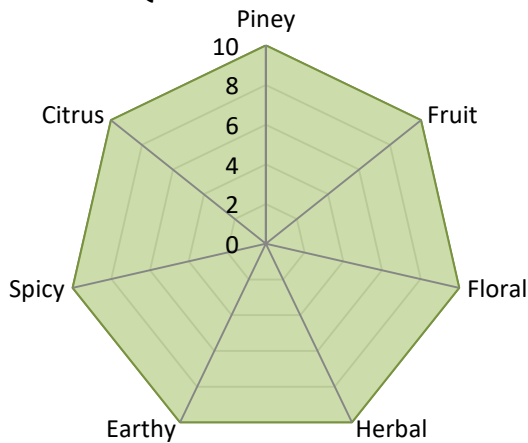
Certifying Officer: Zach Lilla - Lab Manager  
TTB Certified Chemist - Member AOAC - ASBC - BJCP

	Typical Range	
% Moisture <input style="width: 80%;" type="text" value="10.1"/>	8 - 12 %	<input checked="" type="checkbox"/>
<b>HOP QUALITY (adjusted to 10% moisture)</b>		
Total Oil ml/100g <input style="width: 80%;" type="text" value="3.80"/>	2.5 - 4.5 mL	<input checked="" type="checkbox"/>
cohumulone <input style="width: 80%;" type="text" value="33.3"/>	26 - 31%	<input type="checkbox" value="↑"/>
Alpha Acids <input style="width: 80%;" type="text" value="17.81"/>	13.5 - 17.5%	<input type="checkbox" value="↑"/>
Beta Acids <input style="width: 80%;" type="text" value="5.49"/>	4.0 - 5.5%	<input checked="" type="checkbox"/>
Myrcene <input style="width: 80%;" type="text" value="NT"/>	45.00 - 55.00 %	<input type="checkbox"/>

### AROMA QUALITY (AQ)

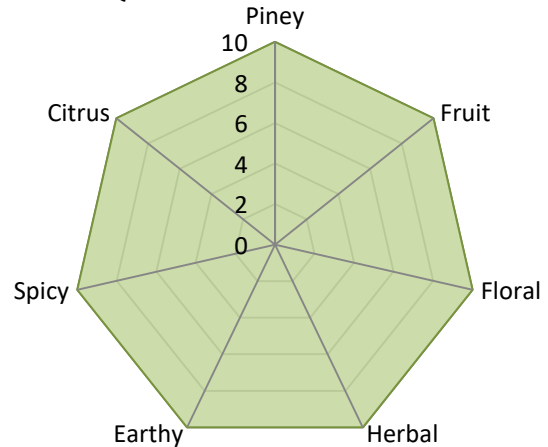
	% Area		mg/mL of Hop Oil		mg/100g of Hops (@10%H2O)	
	NT	Range	NT	Range	NT	Range
B-Pinene	NT	0.50 - 1.10 %	NT	5 - 11	NT	12.5 - 49.5
Myrcene	NT	45.00 - 55.00 %	NT	450 - 550	NT	1125 - 2475
Linalool	NT	0.30 - 0.70 %	NT	3 - 7	NT	7.5 - 31.5
Caryophyllene	NT	6.00 - 10.00 %	NT	60 - 100	NT	150 - 450
Farnesene	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**

Signed: \_\_\_\_\_

Zachary Lilla - Lab Manager - TTB Certified Chemist

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