

# KPU - AGC Hops Service

## Certificate of Analysis

Report Number:

57-RB

Customer:	Ray Bredenhof
Date of Arrival:	Sep.28, 23
Date of Analysis:	Oct.3, 23
Date of Report:	Oct.4, 23
Hop/Sample Name:	Fuggle
Sample Form:	Dried Flower
Mass of Hops (g):	60



Applied  
Genomics  
Centre

Kwantlen Polytechnic University  
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### Alpha/Beta Acid Analysis - ASBC Hops-14 Method

Percent (%) by Mass

Alpha Acids	
Cohumulone	0.47
n+Adhumulone	1.21
<b>Total Alpha Acids</b>	<b>1.68</b>
Beta Acids	
Colupulone	1.04
n+Adlupulone	1.26
<b>Total Beta Acids</b>	<b>2.30</b>
HSI	0.23

### Essential Oil Analysis - EBC 7.12 Method

mg per g of Hops

Percent (%) by Hops Mass

	mg per g of Hops	Percent (%) by Hops Mass
$\beta$ -Myrcene	1.7	0.17
$\beta$ -Caryophyllene	0.5	0.05
trans- $\beta$ -Farnesene	0.2	0.02
$\alpha$ -Humulene	1.2	0.12
<b>Total 4 Major Hops Oils</b>	<b>3.6</b>	<b>0.36</b>

Analytical methods as noted in link below:

[https://www.kpu.ca/sites/default/files/Applied%20Genomics%20Centre/KPU\\_Hops\\_Testing\\_Info.pdf](https://www.kpu.ca/sites/default/files/Applied%20Genomics%20Centre/KPU_Hops_Testing_Info.pdf)

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Samples kept for 1 month post-testing

Data reviewed by:

A handwritten signature in black ink, appearing to read 'M. Schuetz', is written over a horizontal line.

Mathias Schuetz, PhD  
KPU Applied Genomics Center