



YAKIMA CHIEF, Inc.



555 WEST SOUTH HILL ROAD • POST OFFICE BOX 209 • SUNNYSIDE, WA 98944 • PHONE (509) 839-9022 • FAX (509) 839-5570
V.A.T. BE 0469.147.032

Certificate of Analysis

SUPPLIER: YAKIMA CHIEF, INC.
555 West South Hill Road
P.O. Box 209
Sunnyside, WA 98944
Tel: +1.509.839.90.22
Fax: +1.509.839.55.70

PRODUCT NAME: YC-Type 90 Hop Pellets

LOT NUMBER: P9-WBWI046
PRODUCT CODE: P90-4X5F-05K, 40-100-0006
VARIETY: Willamette

<u>CHARACTERISTIC</u>	<u>TYPICAL ANALYSIS</u>	<u>ACTUAL ANALYSIS</u>
ALPHA ACIDS:	2.5 - 17.5% (w/w) LCV by EBC Analytica V 7.5	4.7 %
OIL BY DISTILLATION:	Varies by Variety ASBC Hops - 13 (% v/w)	0.8 %
OIL PROFILE BY GC, EBC Analytica V 7.12:	B-Pinene: 0.2 % Myrcene: 15.6 % Linalool: 0.5 % Caryophyllene: 14.5 %	Farnesene: 8.8 % Humulene: 37.9 % Geraniol: 0.2 %
LEAD:	< 1.0 ppm	passes test
ARSENIC:	< 0.5 ppm	passes test
CADMIUM:	< 0.05 ppm	passes test
TOTAL HEAVY METALS:	< 10 ppm (as Pb)	passes test


Missy Raver
Quality Control Manager

This product was manufactured in a plant whose quality/environmental system is registered as being in conformity with
ISO 9001:2008 and ISO 14001:2004.



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PRODUCT NAME: YC-Type 90 Hop Pellets

LOT NUMBER: P9-XAWI045
PRODUCT CODE: P90-4X5F-05K, 40-100-0310
VARIETY: Willamette

<u>CHARACTERISTIC</u>	<u>TYPICAL ANALYSIS</u>	<u>ACTUAL ANALYSIS</u>
ALPHA ACIDS:	2.5 - 17.5% (w/w) LCV by EBC Analytica V 7.5	5.5 %
OIL BY DISTILLATION:	Varies by Variety ASBC Hops - 13 (% v/w)	0.8 %
OIL PROFILE BY GC, EBC Analytica V 7.12:	B-Pinene: 0.5 % Myrcene: 35.7 % Linalool: 0.8 % Caryophyllene: 11.3 %	Farnesene: 5.6 % Humulene: 27.0 % Geraniol: 0.2 %
LEAD:	< 1.0 ppm	passes test
ARSENIC:	< 0.5 ppm	passes test
CADMIUM:	< 0.03 ppm	passes test
TOTAL HEAVY METALS:	< 10 ppm (as Pb)	passes test


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Quality Control Manager

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VARIETY: Willamette

<u>CHARACTERISTIC</u>	<u>TYPICAL ANALYSIS</u>	<u>ACTUAL ANALYSIS</u>
ALPHA ACIDS:	2.5 - 17.5% (w/w) LCV by EBC Analytica V 7.5	5.5 %
OIL BY DISTILLATION:	Varies by Variety ASBC Hops - 13 (% v/w)	0.8 %
OIL PROFILE BY GC, EBC Analytica V 7.12:	B-Pinene: 0.5 % Myrcene: 35.7 % Linalool: 0.8 % Caryophyllene: 11.3 %	Farnesene: 5.6 % Humulene: 27.0 % Geraniol: 0.2 %
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