

CRAFER MALEST 1992

PRODUCT CATALOGUE 2023 AUSTRALIA

OUR STORY



For over 30 years, the Cryer Malt team has stood shoulder to shoulder with progressive craft brewers who have broken the mould and shaped the modern craft beer movement. We are constantly dedicated to providing the finest brewing ingredients to help brewers create the foundations of a truly excellent beer.

Over the years, our portfolio of premium malted barley has grown extensively. This includes local Australian company, **Barrett Burston Malting Co. Pty Ltd**, along with world-renowned malt from **BESTMALZ**[®] (Germany), **Bairds Malt** and **Thomas Fawcett** (United Kingdom), **Great Western Malting**[®] (USA), **Canada Malting Company** (Canada) and **Dingemans** (Belgium), as well as adjuncts from **Blue Lake Milling** (Australia) and Malt Extract from **Aspera Brauerei Riese GmbH** (Germany). Based in the Pacific Northwest our supply partner Yakima Chief Hops™ is a grower-owned global supplier of top-quality hops. They are true pioneers in the hops game, demonstrating transparency, sustainability and innovation in their mission to connect family hops farms with the world's finest brewers.

We have the ability to provide brewers with a full package of ingredients, distributing yeast from industry leaders, **White Labs** and also local Australian providers, **Mauribrew** and **Pinnacle**, brands of the esteemed **AB Mauri**. We also supply fruit purees from **Oregon Fruit** Purees (USA) and candi syrups from **Dark Candi** (Belgium).

Our friendly team on the ground are always here to help you craft your next brewing creation.

ORDERING

BULK DELIVERIES

SALES TEAM

MALT

HOPS

YEAST

FRUIT PUREES

SYRUPS

KEGS

ORDERS

Our customer experience team is available Monday-Friday, 8:00AM – 5:00PM (AEST). The Order Desk is closed on national public holidays.

We can now process your payment via our Credit Card facilities. Please contact your local Sales Manager or Cryer Malt Accounts if you wish to pay your invoice by Credit Card.

From the 30th April 2021, Cryer Malt will no longer be accepting back orders.

CONTACT US

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For Australia call 1800 119 622 or email us at orders@cryermalt.com.au.

All other enquiries please email your local Sales Manager.

DELIVERIES

All orders for next-day metropolitan deliveries in Melbourne, Brisbane and Perth must be received before 12pm local time. For a next-day delivery to metropolitan Sydney, your order(s) must be received by 11AM.For all interstate and regional deliveries we will endeavour for these to be delivered as soon as possible, please understand that delivery times will vary dependent on your location

WHERE WE SUPPLY

- Australia
- New Zealand
- Asia
- Pacific Islands

WAREHOUSE LOCATIONS

- Melbourne
- Brisbane
- Perth
- Auckland
- Christchurch

FREIGHT PROGRAMS & DETAILS

The following items need to be requested at the time of order and may have an extra charge:

- Tailgate Delivery.
- Ute Delivery.
- Hand unload.
- residential delivery, re-delivery fees.
- If you have a Chep account but fail to exchange the pallet you may incur a \$55 fee per pallet.

• Other carrier-imposed fees may apply, including, but not limited to, call ahead, delivery window guarantees,

• If you do not hold a Chep account and require a plain pallet delivery, you may be subject to a \$40 fee per pallet.

PRICING

All prices are all ex warehouse. Malt products are available in whole kernel form.

PLEASE NOTE: All prices are subject to change without notice. Please contact your local Sales Manager for our most up-to-date pricing.

PAYMENT TERMS

A customer profile/credit application must be completed in order to set up an account and establish payment terms. Accounts are typically set up within one to three business days, upon receipt of the signed and completed credit application. Available terms include prepaid and 30 days from date of invoice. Failure to comply with the agreed-to terms of sale may result in delayed shipment of orders or even revocation of credit privileges.

CREDITS & RETURNS, RECEIVING SHIPMENTS, MALT STORAGE

While we strive for quality from order to delivery, we know things may go wrong and we try our utmost to make it right. Before signing the shipment delivery paperwork, inspect each pallet and look for any sign of damage or loss.

If any problems arise:

- Please note any items that were shorted, broken or compromised on the delivery paperwork before signing.
- Take photos of the damaged pallets and products.
- Email a copy to orders@cryermalt.com.au within 72 hours to report any issues.
- Make sure all employees involved in unloading your shipment follow these procedures
- Cryer Malt will investigate any claim outside 72 hours, however reserves the right to reject the claim.
- All requests to return 'unrequired' stock will be subject to 15% restocking fee & all freight charges are at the expense of the sender. The sender must provide the Cryer Malt CSR's with the product batch number(s), original Cryer Malt invoice number & photo's showing the condition of the product prior to transportation.

MAINTAINING MALT QUALITY

All grain suppliers do their utmost to provide a product that is insect-free. However, once the product leaves their plant or warehouse, it is beyond their control.

We recommend the following preventative measures:

- Inspect your malt-storage area at regularly scheduled intervals. This is of particular importance when the room's temperature is above 18°C.
- Malt should be stored in a clean, cool and dry area off the ground and away from walls.
- To reduce the likelihood of pest activity, you may choose to fumigate your storage area periodically.
- For best results, we recommend using all whole kernel malts within 6 months of receipt.

RECEIVING BULK MALT

To ensure the best quality of malt, we suggest the following:

- Ask the driver for documentation of the trailer pre-load cleanout.
- Inspect the condition of the malt trailer before unloading.
- Insist upon a slow and steady load-out of malt into the silo.
- The delivery paperwork should not be signed until your malt is fully unloaded and inspected.
- Any problems should be noted on the weighbridge docket.
- If you have any questions at the time of unload, do not hesitate to contact us. The driver must wait if you have any concerns.



BULK MALT BAGS

Our forte is custom-sized bulk bags (whether it is 300kg or 1000kg) so we can cater to breweries of all sizes. Our size increments go up in 25kg bags and all bags are pinpoint to the kilo, with no second guessing or weighing apparatus required.

With warehouses located all over Australia, every brewer has access to our malts in bulk bags.

We also offer malt blending options, for those who want to avoid handling 25kg bags all together. We can blend any combination of our malts into one bulk bag.

BULK SILO

Cryer Malt offers two delivery options for bulk malt – either via bulk truck into an auger, or a blower truck which pneumatically blows malt into the silo.

Whether it is a soft shell 10MT silo through to a 40-50MT fully fledged standalone silo, we have a wealth of experience in delivering bulk malt to brewing operation across Australia and work with the best providers to ensure the very best bulk delivery service.

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Director Of Sales & Marketing **Stephanie Howard** +61 419 326 343 showard@bbmalt.com.au

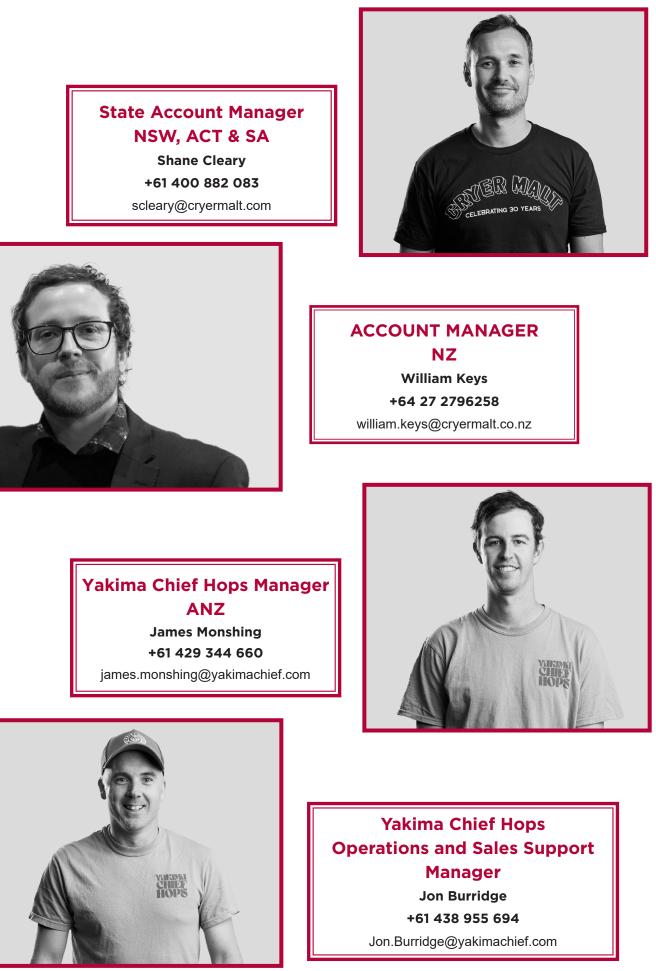
State Account Manager QLD, Northern NSW & NT **Fergus Seppanen** +61 428 910 172 fergus.seppanen@cryermalt.com

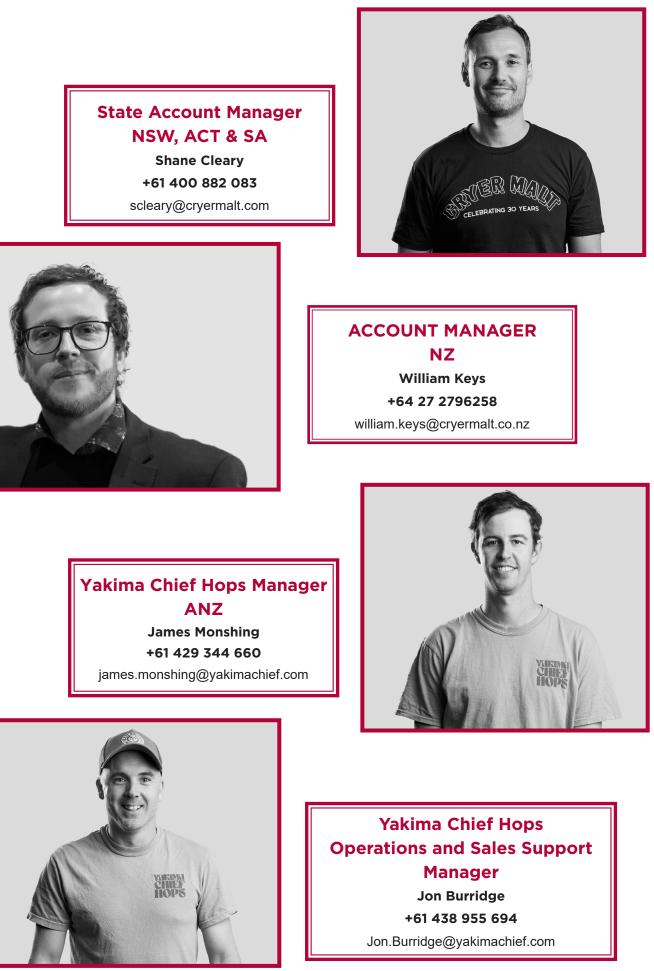




State Account Manager VIC, TAS & WA Scott Bristow +61 429 209 977 scott.bristow@cryermalt.com

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Sourcing high-calibre barley from all corners of Australia, their range of quality products are created to suit all beers and brewing styles.



Servicing the Australian malting industry for over 150 years, Barrett Burston Malting's passion for producing high-quality malt is rooted in tradition, dedication and innovation.

NEW PRODUCT BASE MALTS



Colour °EBC: 3.5-4.5 Moisture (%): 4.8 max. Protein: 9.5-12.0 Extract (%): 80.0 min.



Colour °EBC: 5.5 max. Moisture (%): 5.5 max. Protein: 11.6 max. Extract (%): 82.0 min.



Colour °EBC: 15-20 Moisture (%): N/A Protein: N/A Extract (%): N/A

SPECIALITY MALTS



Colour °EBC: 40-60 Moisture (%): 2.0-8.0 Protein: N/A Extract (%): 75.0 min.

MEDIUM CRYSTAL

Colour °EBC: 150-180 Moisture (%): N/A Protein: N/A Extract (%): N/A



AUSTRALIAN EXTRA PALE MALT









Colour °EBC: 4.5-7.0 Moisture (%): 4.5 max. Protein: 11.5 max. Extract (%): 80.0 min.

Colour °EBC: 8.0-12 Moisture (%): N/A Protein: N/A Extract (%): N/A

Colour °EBC: 22-28 Moisture (%): N/A Protein: N/A Extract (%): N/A

MALT





Colour °EBC: 120-150 Moisture (%): 6.0 max. Protein: N/A Extract (%): 75.0 min.

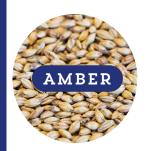
Colour °EBC: 180-240 Moisture (%): 4.5 max. Protein: N/A Extract (%): N/A

SPECIALITY MALTS - CONT.



Colour °EBC: 250-280 Moisture (%): 4.5 max. Protein: N/A Extract (%): N/A

ROASTED MALTS



Colour °EBC: 50-80 Moisture (%): 5.0 max. Protein: N/A Extract (%): N/A



ROASTED MALT

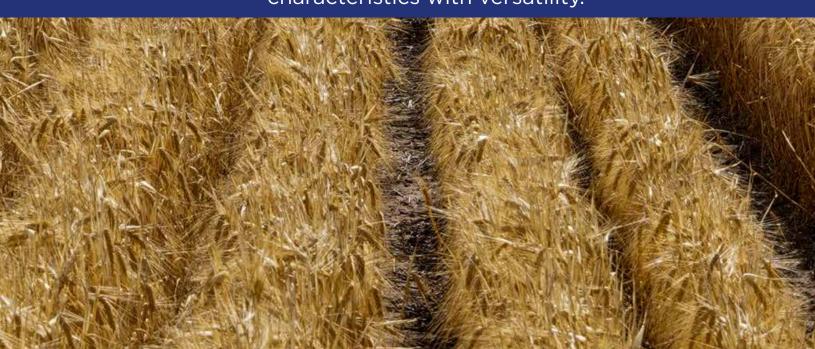
Colour °EBC: 850-1150 Moisture (%): N/A Protein: N/A Extract (%): N/A



Colour °EBC: 1200-1400 Moisture (%): N/A Protein: N/A Extract (%): N/A

Colour °EBC: 400-500 Moisture (%): N/A Protein: N/A Extract (%): N/A

Suitable for a wide range of beer styles, these locally crafted premium malts provide your essential two-row base malt characteristics with versatility.





Colour °EBC: 750-1000 Moisture (%): N/A Protein: N/A Extract (%): N/A

BURSTON MALTING

MALT

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BARRET



PREMIUM AUSTRALIAN BARLEY MALTED IN GEELONG FOR USE IN VICTORIA.

Produced using premium Australian 2-Row barley, Victorian Pale Malt and Victorian Ale Malt are exclusively malted at our Geelong malthouse with the intention to supply Victorian craft breweries and distilleries with locally produced malt.



Built on the foundation of 4 generations of family farming, and strong support from brewers, distillers, bakers, farmers, family, and friends have seen Voyager Craft Malt grow from 'playing around' in the back shed, to restoring and embracing character and the identity of grains to create malts that inspire and push the boundaries of craft beer and spirits.

Dexter malt is a Cara Pils/Dextrin style malt that is a popular choice for enhancing the body, head/foam retention, and mouthfeel of beer. Produced in the traditional European caramel pilsner process, by steeping, part germinating and then drying high-quality, low-protein barley in the kiln. Dexter malt is particularly effective at increasing the foam stability of beer, making it a great choice for styles that require a persistent head, such as Pilsners, Lagers, and Belgian ales. It also adds a smooth, full-bodied mouthfeel to beer, enhancing its overall drinkability.

MALT

Originating in 1899 in a little German town called Kreimbach-Kaulbach, BESTMALZ® was founded on humble roots, starting as a flour mill which was transformed into a malting unit after only five years.

Now, BESTMALZ[®] is a leader in the German malting community. With an impressive inventory of malts, they have become renowned and appreciated by brewers from all around the world.

VIENER

ENNA

BASE MALTS



Colour °EBC: 2.0-2.9 Moisture (%): 4.9 max. Protein: 9.0-11.5 Extract (%): 80.5 min.

BEST ORGANIC PILSEN

Colour °EBC: 3.0-4.9 Moisture (%): 4.9 max. Protein: 9.0-11.5 Extract (%): 80.5 min.



Colour °EBC: 8.0-10 Moisture (%): 4.9 max Protein: 12.0 max. Extract (%): 80.5 min.



Colour °EBC: 21-35 Moisture (%): 4.9 max Protein: 12.0 max. Extract (%): 80.0 min.



Colour °EBC: 60-80 Moisture (%): 4.9 max. Protein: 12.0 max Extract (%): 75.0 min.

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FOR THE BEST BEER



Colour °EBC: 5.0-7.0 Moisture (%): 4.9 max. Protein: 9.0-11.5 Extract (%): 80.5 min.

Colour °EBC: 11-20 Moisture (%): 4.9 max. Protein: 12.0 max. Extract (%): 80.5 min.

Colour °EBC: 40-60 Moisture (%): 4.9 max. Protein: 12.0 max. Extract (%): 75.0 min. MALT

SPECIALITY MALTS

FUNCTIONAL MALTS



Colour °EBC: 3.0-7.0 Moisture (%): 4.5 max. Protein: 12.0 max Extract (%): 75.0 min.



Colour °EBC: 20-40 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.



Colour °EBC: 41-60 Moisture (%): 4.5 max. Protein: 12.0 max Extract (%): 75.0 min.



Colour °EBC: 61-80 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.



BEST

SMOKED

Colour °EBC: 2.0-3.0 Moisture (%): 4.9 max. Protein: 12.0 max. Extract (%): 50.0 min.

Colour °EBC: 3.0-8.0

Moisture (%): 5.5 max.

Extract (%): 77.0 min.

Protein: 9.5-13.0



Colour °EBC: 81-100 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.



Colour °EBC: 110-130 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.

Colour °EBC: 1200-1400 Moisture (%): 5.5 max. BEST ROASTED Protein: N/A BARLEY Extract (%): N/A

ROASTED MALTS



Colour °EBC: 45-55 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.



Colour °EBC: 1100-1200 Moisture (%): 4.5 max. Protein: N/A Extract (%): 65.0 min.



Colour °EBC: 131-200 Moisture (%): 4.5 max. Protein: 12.0 max. Extract (%): 75.0 min.

CRAFT MALTS



Colour °EBC: 28-32 Moisture (%): 4.9 max. Protein: 12.0 max. Extract (%): 79.0 min.



Colour °EBC: 300-400 Moisture (%): 4.5 max. Protein: N/A Extract (%): 75.0 min.

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MALT



BEST PEATED **Colour °EBC:** 3.0-8.0 Moisture (%): 8.0 max. Protein: 13.0 max. Extract (%): 76.0 min.

Colour °EBC: 3.0-8.0 Moisture (%): 5.5 max. Protein: 9.5-13.0 Extract (%): 78.0 min.

MALT





Colour °EBC: 800-1000 Moisture (%): 4.5 max. Protein: N/A Extract (%): 75.0 min.

Colour °EBC: 1300-1500 Moisture (%): 4.5 max. Protein: N/A Extract (%): 65.0 min.

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OTHER GRAIN



MALT

Colour °EBC: 3.5-6.0 Moisture (%): 5.5 max. Protein: 14.0 max. Extract (%): 82.0 min.



Colour °EBC: 100-380 Moisture (%): 5.5 max. Protein: 13.5 max. Extract (%): 75.0 min.



Colour °EBC: 3.5-6.0 Moisture (%): 5.5 max. Protein: 13-15 Extract (%): 82.0 min.



Colour °EBC: 16-20 Moisture (%): 5.5 max. Protein: 14.0 max. Extract (%): 82.0 min.



Colour °EBC: 150-200 Moisture (%): 5.0 max. Protein: N/A Extract (%): 84.9 min.



Colour °EBC: 110-140 Moisture (%): 5.5 max. Protein: 12.9 max. Extract (%): 69.0 min.



With a heritage dating back to 1823, Bairds draw on a rich tapestry of care taken at every stage of their craft to produce the highest quality malt. Bairds' portfolio of malts are quintessentially British, boasting rich, clean, true malt flavour often associated with traditional English beer styles.

Bairds Malt is also destined for whisky with a focus on higher extract levels and lower protein barley.

BASE MALTS

ROASTED MALTS



MALT

Colour °EBC: 3.0-4.0 Moisture (%): 4.5 max. Protein: N/A Extract (%): 80.8 min.



Colour °EBC: 3.5-4.5 Moisture (%): 4.0 max. Protein: N/A Extract (%): 81.5 min.



Colour °EBC: 140-160 Moisture (%): 4.5 max. Protein: N/A Extract (%): 77.0 min.



Colour °EBC: 5.0-7.0 Moisture (%): 4.0 max. Protein: N/A Extract (%): 81.5 min.



Colour °EBC: 3.5-4.5 Moisture (%): 4.5 max. Protein: N/A Extract (%): 79.5 min.



Colour °EBC: 270-350 Moisture (%): 4.5 max. Protein: N/A Extract (%): 77.0 min.



Colour °EBC: 5.0-7.0 Moisture (%): 4.0 max. Protein: N/A Extract (%): 81.5 min.

ROASTED MALTS



DARK

CARAMALT

Colour °EBC: 15-35 Moisture (%): 7.0 max. Protein: N/A Extract (%): 77.0 min.

Colour °EBC: 80-110 Moisture (%): 5.5 max. Protein: N/A Extract (%): 77.0 min.





Colour °EBC: 55-75 Moisture (%): 6.0 max. Protein: N/A Extract (%): 77.0 min..

Colour °EBC: 80-110 Moisture (%): 4.5 max. Protein: N/A. Extract (%): 77.0 min. CHOCOLATE MALT

BROWN MALT



Colour °EBC: 900-1100 Moisture (%): N/A Protein: N/A Extract (%): N/A

Colour °EBC:1200-1500 Moisture (%): N/A Protein: N/A Extract (%): N/A

Colour °EBC: 110-130 Moisture (%): 4.5 max. Protein: N/A Extract (%): 77.0 min.

BAIRDS MALT



BLACK MALT

Colour °EBC: 85-105 Moisture (%): 4.5 max. Protein: N/A Extract (%): 77.0 min.

Colour °EBC:1200-1500 Moisture (%): N/A Protein: N/A Extract (%): N/A MALT

BAIRDS MALT

HIGHLY KILNED MALTS

OTHER MALTS

DISTILLING MALTS



MALT

Colour °EBC: 8.0-10.0 Moisture (%): 3.5 max. Protein: N/A Extract (%): 80.5 min.



Colour °EBC: 10.0 – 15.0 Moisture (%): 3.5 max. Protein: N/A Extract (%): 80.0 min.



Colour °EBC: 3.0-4.5 Moisture (%): 7.0 max. Protein: N/A Extract (%): 70.0 min.



Colour °EBC: 35.0 – 50.0 Moisture (%): 4.5 max. Protein: N/A Extract (%): 80.0 min.

1823 HERITAGE MALTS



Colour °EBC: 140-160 Moisture (%): 4.5 max. Protein: N/A Extract (%): 78.0 min.



Colour °EBC: 3.0-4.0 Moisture (%): 4.5 max. Protein: N/A Extract (%): 80.8 min.



MARIS OTTER

FINEST MALT

SPEYSIDE DISTILLING MALT

Colour °EBC: 3.5-4.5 Moisture (%): 4.5 max. Protein: N/A Extract (%): 82.0 min.



Colour °EBC: 140-160 Moisture (%): 4.5 max. Protein: N/A. Extract (%): 78.0 min. DISTILLING POT STILL

Colour °EBC: 3.5-4.5 Moisture (%): 4.5 max. Protein: N/A Extract (%): 81.5 min.

Colour °EBC: 5.0-7.0 Moisture (%): 4.0 max. Protein: 9.7 max. Extract (%): 82.0 min.

Colour °EBC: 3.5-4.5 Moisture (%): 4.5 max. Protein: N/A. Extract (%): 82.0 min. LIGHTLY PEATED



Moisture (%): 5.0 max. Protein: N/A Extract (%): 81.5 min.

Colour °EBC: 3.5-4.5

Colour °EBC: 3.5-4.5 Moisture (%): 5.0 max. Protein: N/A Extract (%): 81.5 min.

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BAIRDS MALT



Colour °EBC: N/A Moisture (%): 5.0 max. Protein: N/A Extract (%): N/A

Colour °EBC: 3.5-4.5 Moisture (%): 5.0 max. Protein: N/A Extract (%): 81.5 min.

BAIRDS MALT

Serving the brewing industry for over 200 years, Thomas Fawcett & Sons have malting down to a fine art.

They have remained true to the essence of traditional English styles, their malt boasting a rich, clean, true malt flavour which are suitable for American Pale Ales, New

Zealand IPAs and Australian Pale Ales.

THE SAUCESTIS MALT

"PUTTING QUALITY INTO A PINT"

BASE MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Maris Otter [®] Pale Ale	5.0-7.5	< 4.0 max.	8.5 - 10	> 80 min.
Golden Promise™ Pale Ale	5.0-7.5	< 4.0 max.	8.5 - 10	> 80 min.
Halcyon Pale Ale	5.0-7.5	< 4.0 max.	9 - 10.5	> 80 min.
Spring Barley Pale Ale	5.0-7.5	< 4.0 max.	9 - 10.5	> 80 min.
Pearl Pale Ale	5.0-7.5	< 4.0 max.	9 - 10.5	> 80 min.
Lager Malt	3.0-5.0	< 4.0 max.	9 - 10.5	> 80 min.
Mild Ale Malt	7.5 - 9.0	< 4.0 max.	9 - 10.5	> 80 min.
Vienna Malt	10 - 15	< 4.0 max.	9 - 10.5	> 79 min.
Munich Malt	22 - 30	< 4.0 max.	9 - 10.5	> 79 min.
ROASTED CARAMEL	_ MAI	LTS		

Item Description	Colour °EBC	Moisture %	Protein	Extract %
CaraMalt	25-40	< 7.0 max.	11.6 max	> 70 min.
Pale CaraMalt	12 - 20	< 7.5 max.	11.6 max	> 70 min.
Pale Crystal	60-90	< 6.5 max.	11.6 max	> 70 min.
Crystal Malt I	150-175	< 5.0 max.	11.6 max	> 70 min.
Dark Crystal Malt I	250-300	< 4.5 max.	11.6 max	> 70 min.
Dark Crystal Malt II	289-334	< 4.5 max.	11.6 max	> 70 min.
Crystal Wheat	125-190	< 5.0 max.	< 12.2 max	> 70 min.
Crystal Rye	125-250	< 5.0 max.	11.6 max	> 70 min.
Red Crystal	350-450	< 4.5 max.	11.6 max	> 70 min.
ROASTED MALTS				

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Roasted Wheat	700-1100	< 4.5 max.	12.2 max	> 70 min.
Roasted Barley	1300-1600	< 4.5 max.	11.6 max	> 68.5 min.
Roasted Rye	450-850	< 4.5 max.	11.6 max	> 67.5 min.
Amber Malt	110 - 140	< 4.5 max.	11.6 max	> 67.5 min.
Brown Malt	175 - 200	< 4.5 max.	11.6 max	> 67.5 min.
Pale Chocolate Malt	560 - 690	< 4.5 max.	< 11.6	> 67.5 min.
Chocolate Malt	1100 - 1250	< 4.5 max.	< 11.6	> 67.5 min.
Black Malt	1300 - 1600	< 4.5 max.	< 11.6	> 67.5 min.

SPECIALITY GRAINS

Item Description	
Wheat Malt	
Oat Malt	
Rye Malt	

Colour °EBC	Moisture %	Protein	Extract %
3.0-5.0	< 4.5 max.	<12.2 max.	> 80 min.
5.0-7.5	< 4.5 max.	< 11.9 max.	> 60 min.
7.0-10	< 4.5 max.	< 10.9 max.	> 75 min.

The world's best malt is not created just by algorithms and recipes. Like producing award-winning beer and spirits, it takes an instinct that takes decades to master.

For over 85 years, it has been Great Western Malting's passion to make perfect malt for craft brewers and distillers. Their world-class malt is the true heart of your craft.

GREAT WESTERN MALTING

PREMIUM BASE MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Superior Pilsen	3.0	4.2 max.	10.7 max.	80.0 min.
Premium Two Row	4.0	4.2 max.	11.5 max.	80.0 min.
Pale High Color	7.0	4.2 max.	11.5 max.	80.0 min.
White Wheat Malt	7.5	5.0 max.	10.0 max.	85.0 min.

SPECIALITY MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Biscuit Rye Malt	33	5.0 max.	10.0 max.	-
Brumalt	40	5.0 max.	11.5 max.	-
Caramel Steam	80	5.0 max.	11.5 max.	-
Light Munich Malt	15	4.2 max.	11.5 max.	77.0 min.
Munich Malt	20	4.4 max.	11.5 max.	80.0 min.
Dark Munich Malt	40	4.4 max.	12.0 max.	80.0 min.
Mela Malt	60	4.4 max.	12.0 max.	80.0 min.
Vienna Malt	8	4.0 max.	11.5 max.	80.0 min.

CRYSTAL MALTS

Item Description Crystal 15 Malt Crystal 30 Malt Crystal 40 Malt Crystal 60 Malt Crystal 75 Malt Crystal 120 Malt Crystal 150 Malt

IDENTITY PRESERVED MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Pure Washington	4.0	4.2 max.	12.5 max.	80.0 min.
Pure Oregon	4.0	4.2 max.	12.5 max.	80.0 min.
Pure California	4.0	4.2 max.	12.5 max.	80.0 min.
Pure Idaho	3.0	4.2 max.	10.7 max.	80.0 min.

MALT

Colour °EBC	Moisture %	Protein	Extract %	
30	7.2 max.	11.5 max.	70.0 min.	
60	5.5 max.	11.5 max.	70.0 min.	
80	5.4 max.	11.5 max.	70.0 min.	
110	5.0 max.	11.5 max	70.0 min.	
150	4.0 max.	11.5 max.	70.0 min.	
230	3.0 max.	11.5 max.	70.0 min.	
300	2.8 max.	11.5 max.	70.0 min.	

SPECIALITY GRAINS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
DextraPils®	3.0	6.0 max.	12.0 max.	-
Unmalted Wheat	4.0	12.0 max.	10.0 max.	80.0 min.

CERTIFIED ORGANIC MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Organic Superior Pilsen Malt	3.0	4.2 max.	10.7 max.	80.0 min.
Organic Premium 2-Row Malt	4.0	4.2 max.	11.5 max.	80.0 min.
Organic White Wheat Malt	7.5	5.0 max.	10.0 max.	80.0 min.
Organic Munich Malt	20	4.4 max.	11.5 max.	80.0 min.
Organic Crystal 15 Malt	30	7.2 max.	11.5 max.	70.0 min.
Organic Crystal 40 Malt	80	5.4 max.	11.5 max.	70.0 min.
Organic Crystal 60 Malt	110	4.6 max.	11.5 max.	70.0 min.
Organic Crystal 120 Malt	230	3.0 max.	11.5 max.	70.0 min.

At Canada Malting Company, it's more than just selling ingredients, it's about being part of something bigger. Their malting roots trace back to 1823 as does the knowledge, relationships and values their team continues to cultivate today.

They care about the industry and are driven to build strong partnerships at every step, from the farm gate, to the finished beer or spirit. It's these relationships and the connection their family has in the communities they serve that makes them an intrinsic part of Canada's past and future.



Great Western Malting built their Malt Innovation Centre in 2015. Equipped with industry-leading malting, brewing and sensory resources, their experienced technical team utilise small batch size capability and advanced instrumentation to deliver novel products for brewing, distilling and food applications with the speed and efficiency required by today's marketplace.

SPECIALITY MALTS

Item Description Colour °EBC Moistu	ure % Protein Extract %
White Wheat Malt5.0-10.04.5 m	nax. 12.0 max. 84.0 min.
Century Rye Malt 4.5-6.5 5.0 m	nax. 15.0 max
Oat Malt 4.5-6.0 4.5 n	nax. 11.0 max. 60.0 min.
Munich Malt 20.0-35.0 4.2 n	nax. 12.0 max. 81.0 min.

BASE MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Canadian 6-Row Malt	3.5-5.0	4.5 max.	13.0 max.	80.0 min.
Canadian 2-Row Malt	3.0-4.0	4.5 max.	12.5 max.	81.0 min.
Organic 2-Row	3.0-4.0	4.5 max.	12.5 max.	81.0 min.

SUPERIOR BASE MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Superior Pilsen Malt	2.0-3.0	4.5 max.	10.8 max.	81.0 min.
Superior Pale Ale Malt	6.0-8.0	4.5 max.	11.5 max.	81.0 min.

REGIONAL MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
New Englander Malt	4.5-8.0	4.5 max.	12.5 max.	80.5 min.
Maritime Brewers Malt	4.5-8.0	4.5 max.	12.5 max.	80.5 min.
Quebecoise Malt	4.5-8.0	4.5 max.	12.5 max.	80.5 min.
Ontario Malt	4.5-8.0	4.5 max.	12.5 max.	80.5 min.

DISTILLING MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Bourbon Malt	3.5 - 5.0	5.5 max.	14.0 max.	81.0 min.
Pot Still Malt	2.0-3.0	4.5 max.	10.8 max.	81.0 min.



If you are looking to make an authentic (and innovative) beer style, look no further than a true Belgian malt from Mouterij Dingemans.

We supply the most popular Belgian malts from Dingemans that are the heart and soul of Belgian-style beers.

SPECIALITY MALTS

Item Description	Colour °EBC	Moisture %	Protein	Extract %
Pilsen MD™	3.5 max.	4.5 max.	11.5 max.	80.0 min.
Aromatic MD / Amber MD ™	40-60	4.5 max.	12.0 max.	79.0 min.
Biscuit MD™	47-70	4.5 max.	12.5 max.	75.0 min.
Special B MD ™	270-350	5.0 max.	12.5 max.	72.0 min.
Pale Ale MD ™	8.0-10.0	4.5 max.	12.0 max.	80.0 min.

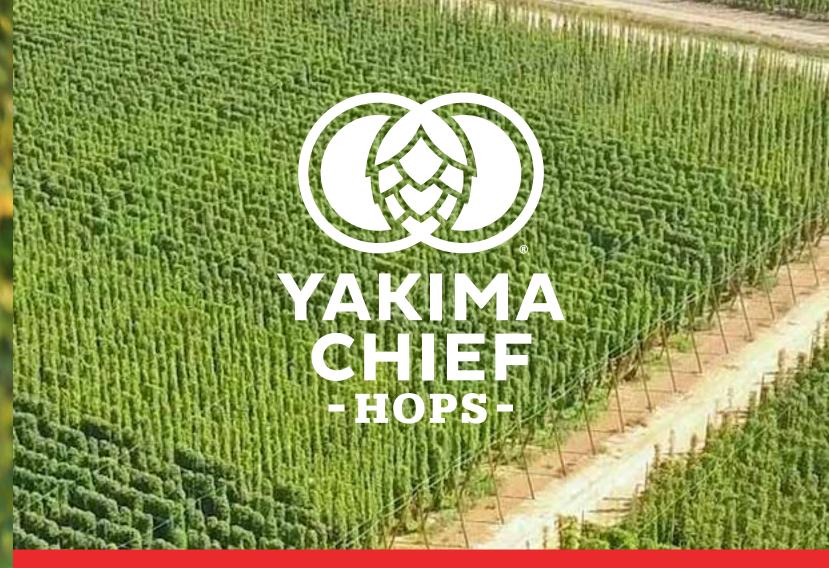




- Rolled Oats
- **Rolled Rice**
- Rolled Wheat
- Rolled Triticale

100% Australian grown and produced, Blue Lake Milling is a supplier of rolled, unmalted cereals which can be used for brewing purposes.

• Rolled Barley Rolled Rye • Rolled Spelt • Rice Hulls



As a 100% grower-owned network of family hop farms, Yakima Chief Hops® is uniquely positioned to establish strong relationships between the growers who supply the premium hops and the innovative brewing customers who showcase the product in their excellent beers.

With a strong focus on new product discovery, process improvement and sustainability, Yakima Chief Hops® is dedicated in providing the very best hop products to the global brewing community.



T-90 HOP PELLETS

Yakima Chief Hops[®]'s T-90 hop pellets retain all of their natural lupulin and cone material, and can be used as a full replacement for whole hops having a longer shelf life, requiring less storage space, and generally being easier to handle.

They are produced from kiln-dried, whole leaf hop cones which have been hammer-milled into a uniform powder and pressed through a pellet die.

lariaty				
Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ANUM® BRAND YCR 1	Aroma	4-6	4 - 6	0.5 - 1.7
na: Grapefruit, Floral, Cedar				
l by Yakima Chief Ranches, Ahtanum [®] Bran lerate bittering. The hop is named after the ne Cascade Mountains in Washington Stat	e location where Char	/pe cultivar used es Carpenter es	d for its aromat tablished the fi	ic properties and rst hop farm east
ariety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
RILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
ma: Grapefruit, Orange, Lemon, Melon, Ap	oricot, Peach			
overed by Virgil Gamache Farms, Amaril ures relatively high alpha acids along with	lo [®] is one of the top n extremely high level	ten aroma varie s of myrcene for	ties utilised by citrus and gra	craft brewers. It pefruit flavours.
riety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
na: Mango, Papaya, Orange, Grapefruit, L				
cca®, named for the Haitian god of agric natic qualities have quickly made Azacca®	a go-to hop for late a	and dry hop adc	litions in varyin	g styles of beer.
ariety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ADE	Aroma	5.5-9	6-7.5	0.8-2
na: Grapefruit, Floral, Pine				с. I. I. I.
inating from the USDA-ARA breeding pro				
s developed by open pollination of a Fug	gle seedling. Cascade	is the most non	ular variety in d	craft browing and
own for having a unique floral, spicy and	citrus character, with	balanced bitteri	ing potential.	crart brewing and
own for having a unique floral, spicy and	citrus character, with Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
own for having a unique floral, spicy and riety IMERE	citrus character, with	balanced bitteri	ing potential.	
own for having a unique floral, spicy and riety IMERE ha: Melon, Lemon, Lime, Spice Hoped by Washington State University an Northern Brewer. It contains higher alph oth bitterness and a mild citrus fruit arom	citrus character, with Brewing Usage Dual-Purpose nd released in 2013, C a acid content than C	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twic	ing potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing
own for having a unique floral, spicy and rriety IMERE na: Melon, Lemon, Lime, Spice Ploped by Washington State University an Northern Brewer. It contains higher alpha oth bitterness and a mild citrus fruit arom rriety	citrus character, with Brewing Usage Dual-Purpose a acid content than C a. Brewing Usage	Alpha Acid % 7-10 Gashmere is the ascade and twice Alpha Acid %	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing Total Oil (mL/100g)
own for having a unique floral, spicy and ariety IMERE na: Melon, Lemon, Lime, Spice eloped by Washington State University an Northern Brewer. It contains higher alph oth bitterness and a mild citrus fruit arom ariety ENNIAL	citrus character, with Brewing Usage Dual-Purpose nd released in 2013, C a acid content than C a.	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twic	ing potential. Beta Acid % 6-7 result of a mar ce as much hur	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing
own for having a unique floral, spicy and ariety IMERE na: Melon, Lemon, Lime, Spice Ploped by Washington State University a Northern Brewer. It contains higher alpha oth bitterness and a mild citrus fruit arom ariety	citrus character, with Brewing Usage Dual-Purpose d released in 2013, C a acid content than C a. Brewing Usage Dual-Purpose Cuniversity in 1990, Ce a craft brewing. It is o	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found ccade (containing
own for having a unique floral, spicy and riety MERE ha: Melon, Lemon, Lime, Spice loped by Washington State University and Northern Brewer. It contains higher alpha oth bitterness and a mild citrus fruit arom riety ENNIAL ha: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ir as one of the most popular varieties ir y double the alpha content), and can be er's Gold and a USDA male.	citrus character, with Brewing Usage Dual-Purpose d released in 2013, C a acid content than C a. Brewing Usage Dual-Purpose Cuniversity in 1990, Ce a craft brewing. It is o	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found ccade (containing
own for having a unique floral, spicy and riety MERE ha: Melon, Lemon, Lime, Spice loped by Washington State University an Northern Brewer. It contains higher alpha oth bitterness and a mild citrus fruit arom riety ENNIAL ha: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ir as one of the most popular varieties ir y double the alpha content), and can be er's Gold and a USDA male.	citrus character, with Brewing Usage Dual-Purpose a acid content than Catalog Brewing Usage Dual-Purpose Cuniversity in 1990, Center of the prewing. It is of the used for bittering p	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12 Intennial is an arriften referred to urposes. Center	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found ccade (containing id cross between
own for having a unique floral, spicy and riety IMERE ha: Melon, Lemon, Lime, Spice Hoped by Washington State University and Northern Brewer. It contains higher alpha both bitterness and a mild citrus fruit arow riety ENNIAL ha: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ur as one of the most popular varieties in y double the alpha content), and can be rer's Gold and a USDA male. riety OOK	citrus character, with Brewing Usage Dual-Purpose Ca acid content than Ca Brewing Usage Dual-Purpose Cuniversity in 1990, Ce craft brewing. It is o E used for bittering p Brewing Usage	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12 Intennial is an ar ften referred to urposes. Center Alpha Acid %	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diploi Beta Acid %	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found id cross between Total Oil (mL/100g)
own for having a unique floral, spicy and rriety IMERE ha: Melon, Lemon, Lime, Spice Ploped by Washington State University and Northern Brewer. It contains higher alpha both bitterness and a mild citrus fruit arom rriety FENNIAL ha: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ur as one of the most popular varieties in ly double the alpha content), and can be ver's Gold and a USDA male. rriety OOK ha: Grapefruit, Spicy, Pine Ploped by the USDA breeding program ty. Chinook is a cross between Petham Grameters Ploped by the USDA breeding program	citrus character, with Brewing Usage Dual-Purpose A acid content than C a acid content than C b a acid	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twide Alpha Acid % 8.5-12 Intennial is an ard ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ile. In recent year	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-
own for having a unique floral, spicy and rriety IMERE ha: Melon, Lemon, Lime, Spice Hoped by Washington State University and Northern Brewer. It contains higher alpha both bitterness and a mild citrus fruit arom rriety FENNIAL ha: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ur as one of the most popular varieties in by double the alpha content), and can be ver's Gold and a USDA male. rriety OOK ha: Grapefruit, Spicy, Pine Hoped by the USDA breeding program ty, Chinook is a cross between Petham Go ose hop in the craft-brewing community	citrus character, with Brewing Usage Dual-Purpose A acid content than C a acid content than C b a acid	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twide Alpha Acid % 8.5-12 Intennial is an ard ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ile. In recent year	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-
own for having a unique floral, spicy and ariety MERE na: Melon, Lemon, Lime, Spice eloped by Washington State University and Northern Brewer. It contains higher alpha oth bitterness and a mild citrus fruit arom ariety ENNIAL na: Lemon, Floral, Orange Blossom in 1974 and released by Washington State ur as one of the most popular varieties in ly double the alpha content), and can b	citrus character, with Brewing Usage Dual-Purpose a acid content than Catal Brewing Usage Dual-Purpose Cuniversity in 1990, Cetal craft brewing. It is of e used for bittering p Brewing Usage Dual-Purpose a craft of bittering p Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twide Alpha Acid % 8.5-12 Intennial is an ard ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ile. In recent year and pine aroma	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig ars, it has found a characteristic	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual- s.
own for having a unique floral, spicy and riety IMERE The Melon, Lemon, Lime, Spice Ploped by Washington State University and Northern Brewer. It contains higher alpha toth bitterness and a mild citrus fruit arow riety ENNIAL The Lemon, Floral, Orange Blossom In 1974 and released by Washington State ar as one of the most popular varieties in y double the alpha content), and can be rer's Gold and a USDA male. Triety OOK The Grapefruit, Spicy, Pine Ploped by the USDA breeding program ty, Chinook is a cross between Petham Geo ose hop in the craft-brewing community Triety The State	citrus character, with Brewing Usage Dual-Purpose a acid content than Cata Brewing Usage Dual-Purpose Cuniversity in 1990, Cet craft brewing. It is o to be used for bittering p Brewing Usage Dual-Purpose in Washington State olding and a USDA mata as a result of its spice Brewing Usage	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12 entennial is an arriter referred to urposes. Centeri Alpha Acid % 11.5-15 and released in ile. In recent year and pine aroma Alpha Acid %	ing potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplot Beta Acid % 3-4 1985 as a hig ars, it has found a characteristic Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found ccade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual- s. Total Oil (mL/100g)

AMARILLO® BRAND VGXP01 Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Pea Discovered by Virgil Gamache Farms, Amarillo® is one features relatively high alpha acids along with extremel Hop Variety Bre AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h	where Charle ewing Usage Aroma ch of the top te y high levels ewing Usage Aroma ey, Spicy, Pine	Alpha Acid % 7-11 Alpha Acid % 7-11 Alpha Acid % 10-14 eapple, Grassy,	Beta Acid % 5.5 - 8 ties utilised by citrus and gray Beta Acid % 4-5.5 Tropical Fruit,	rst hop farm east Total Oil (mL/100g) 1-2.5 craft brewers. It pefruit flavours. Total Oil (mL/100g) 1-2 Citrus
Bred by Yakima Chief Ranches, Ahtanum Brand YCR 1 is moderate bittering. The hop is named after the location of the Cascade Mountains in Washington State in 1869. Hop Variety Bread AMARILLO® BRAND VGXP01 Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Pear Discovered by Virgil Gamache Farms, Amarillo® is one features relatively high alpha acids along with extremel Hop Variety Bread AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bread Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	where Charle ewing Usage Aroma ch of the top te y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	Alpha Acid % 7-11 an aroma variet of myrcene for Alpha Acid % 10-14 eapple, Grassy, n citrus and tro hd dry hop add Alpha Acid %	Beta Acid % 5.5 - 8 ties utilised by citrus and grap Beta Acid % 4-5.5 Tropical Fruit, ppical fruit ton itions in varyin	rst hop farm east Total Oil (mL/100g) 1-2.5 craft brewers. It pefruit flavours. Total Oil (mL/100g) 1-2 Citrus les. It's excellent g styles of beer.
moderate bittering. The hop is named after the location of the Cascade Mountains in Washington State in 1869. Hop Variety Bree AMARILLO® BRAND VGXP01 Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Pea Discovered by Virgil Gamache Farms, Amarillo® is one features relatively high alpha acids along with extremel Hop Variety Bree AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bree CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	where Charle ewing Usage Aroma ch of the top te y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	Alpha Acid % 7-11 an aroma variet of myrcene for Alpha Acid % 10-14 eapple, Grassy, n citrus and tro hd dry hop add Alpha Acid %	Beta Acid % 5.5 - 8 ties utilised by citrus and grap Beta Acid % 4-5.5 Tropical Fruit, ppical fruit ton itions in varyin	rst hop farm east Total Oil (mL/100g) 1-2.5 craft brewers. It pefruit flavours. Total Oil (mL/100g) 1-2 Citrus les. It's excellent g styles of beer.
AMARILLO® BRAND VGXP01 Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Pea Discovered by Virgil Gamache Farms, Amarillo® is one features relatively high alpha acids along with extremel Hop Variety Bre AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	Aroma of the top te y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	7-11 an aroma varief of myrcene for Alpha Acid % 10-14 eapple, Grassy, n citrus and tro hd dry hop add Alpha Acid %	5.5-8 ties utilised by citrus and gray Beta Acid % 4-5.5 Tropical Fruit, opical fruit ton itions in varyin	1-2.5 craft brewers. It pefruit flavours. Total Oil (mL/100g) 1-2 Citrus les. It's excellent g styles of beer.
Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Pea Discovered by Virgil Gamache Farms, Amarillo [®] is one features relatively high alpha acids along with extremel Hop Variety Bre AZACCA [®] BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca [®] , named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca [®] a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	ch of the top te y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	Alpha Acid % 10-14 eapple, Grassy, n citrus and tro d dry hop add	Beta Acid % 4-5.5 Tropical Fruit, pical fruit ton itions in varyin	Total Oil (mL/100g) 1-2 Citrus es. It's excellent g styles of beer.
Discovered by Virgil Gamache Farms, Amarillo [®] is one features relatively high alpha acids along with extremel Hop Variety Bre AZACCA [®] BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca [®] , named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca [®] a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	of the top te y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	of myrcene for Alpha Acid % 10-14 eapple, Grassy, n citrus and tro nd dry hop add	Beta Acid % 4-5.5 Tropical Fruit, ppical fruit ton itions in varyin	Total Oil (mL/100g) 1-2 Citrus nes. It's excellent g styles of beer.
features relatively high alpha acids along with extremel Hop Variety Bre AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	y high levels ewing Usage Aroma ey, Spicy, Pine a hop big in op for late ar	of myrcene for Alpha Acid % 10-14 eapple, Grassy, n citrus and tro nd dry hop add	Beta Acid % 4-5.5 Tropical Fruit, ppical fruit ton itions in varyin	Total Oil (mL/100g) 1-2 Citrus nes. It's excellent g styles of beer.
AZACCA® BRAND ADHA 483 Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	Aroma ey, Spicy, Pino a hop big in op for late ar	10-14 eapple, Grassy, n citrus and tro nd dry hop add	4-5.5 Tropical Fruit, ppical fruit ton itions in varyin	1-2 Citrus les. It's excellent g styles of beer.
Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Pine Azacca®, named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca® a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	ey, Spicy, Pind a hop big in op for late ar ewing Usage	eapple, Grassy, citrus and tro nd dry hop add Alpha Acid %	Tropical Fruit, ppical fruit ton itions in varyin	Citrus es. It's excellent g styles of beer.
Azacca [®] , named for the Haitian god of agriculture, is aromatic qualities have quickly made Azacca [®] a go-to h Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	a hop big in op for late ar ewing Usage	Alpha Acid %	ppical fruit ton itions in varyin	es. It's excellent g styles of beer.
Hop Variety Bre CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	ewing Usage	Alpha Acid %		
CASCADE Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas			Beta Acid %	Total Oil (ml /100g)
Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding program, Cas	Aroma	5 5 9		0
Originating from the USDA-ARA breeding program, Cas		5.5-5	6-7.5	0.8-2
is known for having a unique floral, spicy and citrus cha Hop Variety Bre	ewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASHMERE Du	ual-Purpose	7-10	6-7	0.5-1.5
Developed by Washington State University and release and Northern Brewer. It contains higher alpha acid con smooth bitterness and a mild citrus fruit aroma. Hop Variety	ed in 2013, Ca itent than Ca	Alpha Acid %	result of a mar e as much hur Beta Acid %	riage of Cascade nulene providing Total Oil (mL/100g)
	ual-Purpose	8.5-12	3.5-5.5	1-3
Aroma: Lemon, Floral, Orange Blossom		5.0 IL	5.6 6.6	± Ç
Bred in 1974 and released by Washington State University favour as one of the most popular varieties in craft bre nearly double the alpha content), and can be used for Brewer's Gold and a USDA male.	wina It is oft	en referred to .	as a super-Cas	cade (containing
Hop Variety Bre	ewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CHINOOK Du	ual-Purpose	11.5-15	3-4	1-2.5
Aroma: Grapefruit, Spicy, Pine	aton State o	e. In recent yea	rs, it has found	favour as a dual-
Developed by the USDA breeding program in Washin variety, Chinook is a cross between Petham Golding and purpose hop in the craft-brewing community as a result	l a USDA male	and pine aroma	characteristic	э.
variety, Chinook is a cross between Petham Golding and purpose hop in the craft-brewing community as a result	l a USDA male	Alpha Acid %	characteristic	S. Total Oil (mL/100g)

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AHTANUM® BRAND YCR 1	Aroma	4-6	4 - 6	0.5 - 1.7
Aroma: Grapefruit, Floral, Cedar				
Bred by Yakima Chief Ranches, Ahtanum Brand YCI moderate bittering. The hop is named after the loca of the Cascade Mountains in Washington State in 18	tion where Charl	/pe cultivar usec es Carpenter est	l for its aromat ablished the fi	ic properties and rst hop farm east
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AMARILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
Aroma: Grapefruit, Orange, Lemon, Melon, Apricot	Peach			
Discovered by Virgil Gamache Farms, Amarillo [®] is features relatively high alpha acids along with extra	one of the top t emely high levels	ten aroma variet s of myrcene for	ties utilised by citrus and gra	craft brewers. It pefruit flavours.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
Aroma: Mango, Papaya, Orange, Grapefruit, Lemon	, Piney, Spicy, Piı	neapple, Grassy,	Tropical Fruit,	Citrus
Azacca [®] , named for the Haitian god of agricultur aromatic qualities have quickly made Azacca [®] a go	e, is a hop big i -to hop for late a	in citrus and tro and dry hop add	ppical fruit ton itions in varyin	es. It's excellent g styles of beer.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	5.5-9	6-7.5	0.8-2
Aroma: Grapefruit, Floral, Pine				
Originating from the USDA-ARA breeding program	, Cascade is an a	roma-type culti	var bred in 195	6 and released in
1972. It was developed by open pollination of a Fuggle se	edling, Cascade	is the most pop	ular variety in d	raft brewing and
is known for having a unique floral, spicy and citrus	character, with	balanced bitteri	ng potential.	
Hop Variety	Brewing Usage	Alpha Acid %	ng potential. Beta Acid %	Total Oil (mL/100g)
is known for having a unique floral, spicy and citrus	character, with	balanced bitteri	ng potential.	
is known for having a unique floral, spicy and citrus Hop Variety	Brewing Usage	balanced bitteri	ng potential. Beta Acid %	Total Oil (mL/100g)
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE	Brewing Usage Dual-Purpose	balanced bitteri Alpha Acid % 7-10	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid	Brewing Usage Dual-Purpose	balanced bitteri Alpha Acid % 7-10	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma.	e character, with Brewing Usage Dual-Purpose eased in 2013, C content than C	Alpha Acid % 7-10 Gashmere is the lascade and twic	ng potential. Beta Acid % 6-7 result of a mar se as much hur	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety	Brewing Usage Dual-Purpose eased in 2013, C content than C	Alpha Acid % 7-10 Gashmere is the r ascade and twic Alpha Acid %	ng potential. Beta Acid % 6-7 result of a mar se as much hur Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL	e character, with Brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce	balanced bitteri Alpha Acid % 7-10 Gashmere is the i ascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to	ng potential. Beta Acid % 6-7 result of a mar result of a mar beta Acid % 3.5-5.5 pma-type cultives a super-Cas	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing Total Oil (mL/100g) 1-3
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be use	e character, with Brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce	balanced bitteri Alpha Acid % 7-10 Gashmere is the i ascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to	ng potential. Beta Acid % 6-7 result of a mar result of a mar beta Acid % 3.5-5.5 pma-type cultives a super-Cas	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing Total Oil (mL/100g) 1-3
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be user Brewer's Gold and a USDA male.	ersity in 1990, Ce brewing Usage	balanced bitteri Alpha Acid % 7-10 asshmere is the r ascade and twice Alpha Acid % 8.5-12 ntennial is an arc ften referred to urposes. Center	ng potential. Beta Acid % 6-7 result of a mar result of a mar beta Acid % 3.5-5.5 Doma-type cultival as a super-Cas onial is a diploi	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found cade (containing d cross between
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be use Brewer's Gold and a USDA male. Hop Variety	E character, with Brewing Usage Dual-Purpose eased in 2013, C Content than C Brewing Usage Dual-Purpose ersity in 1990, Ce brewing. It is of d for bittering p Brewing Usage	balanced bitteri Alpha Acid % 7-10 Gashmere is the i ascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to urposes. Center Alpha Acid %	ng potential. Beta Acid % 6-7 result of a mar result of a mar as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas pmial is a diploi Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 rat that has found cade (containing d cross between Total Oil (mL/100g)
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be use Brewer's Gold and a USDA male. Hop Variety CHINOOK	ersity in 1990, Ce brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce brewing. It is of d for bittering p Brewing Usage Dual-Purpose	Alpha Acid % 7-10 Cashmere is the pascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to urposes. Center Alpha Acid % 11.5-15	ng potential. Beta Acid % 6-7 result of a mar e as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas philling a diploi Beta Acid % 3-4 1985 as a hig rs. it has found	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found cade (containing d cross between Total Oil (mL/100g) 1-2.5
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be use Brewer's Gold and a USDA male. Hop Variety CHINOOK Aroma: Grapefruit, Spicy, Pine Developed by the USDA breeding program in Wa variety. Chinook is a cross between Petham Golding	ersity in 1990, Ce brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce brewing. It is of d for bittering p Brewing Usage Dual-Purpose	Alpha Acid % 7-10 Cashmere is the pascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to urposes. Center Alpha Acid % 11.5-15	ng potential. Beta Acid % 6-7 result of a mar e as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas philling a diploi Beta Acid % 3-4 1985 as a hig rs. it has found	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found cade (containing d cross between Total Oil (mL/100g) 1-2.5
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be use Brewer's Gold and a USDA male. Hop Variety CHINOOK Aroma: Grapefruit, Spicy, Pine Developed by the USDA breeding program in Wa variety, Chinook is a cross between Petham Golding purpose hop in the craft-brewing community as a r	character, with Brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce brewing. It is of d for bittering p Brewing Usage Dual-Purpose brewing Usage Dual-Purpose shington State a solut of its spice	Alpha Acid % 7-10 Cashmere is the pascade and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ile. In recent yea and pine aroma	ng potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas phila is a diploi Beta Acid % 3-4 1985 as a hig rs, it has found characteristic:	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found cade (containing d cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-s.
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be user Brewer's Gold and a USDA male. Hop Variety CHINOOK Aroma: Grapefruit, Spicy, Pine Developed by the USDA breeding program in Wa variety, Chinook is a cross between Petham Golding purpose hop in the craft-brewing community as a r	ersity in 1990, Ce brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Dual-Purpose Brewing Usage Brewing Usage Brewing Usage	balanced bitteri Alpha Acid % 7-10 Gashmere is the passed and twice Alpha Acid % 8.5-12 Intennial is an arc ften referred to urposes. Center Alpha Acid % 11.5-15 and released in le. In recent yea and pine aroma Alpha Acid %	ng potential. Beta Acid % 6-7 result of a mar re as much hur Beta Acid % 3.5-5.5 pma-type cultival as a super-Cas phila is a diploid Beta Acid % 3-4 1985 as a high rs, it has found characteristic: Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found cade (containing d cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual- s. Total Oil (mL/100g)

HTANUM® BRAND YCR 1 roma: Grapefruit, Floral, Cedar red by Yakima Chief Ranches, Ahtanum [®] Branc oderate bittering. The hop is named after the f the Cascade Mountains in Washington State	Aroma		Beta Acid %	Total Oil (mL/100g)
red by Yakima Chief Ranches, Ahtanum Branc noderate bittering. The hop is named after the f the Cascade Mountains in Washington State		4-6	4 - 6	0.5 - 1.7
noderate bittering. The hop is named after the f the Cascade Mountains in Washington State				
on Variety	location where Char	ype cultivar used es Carpenter es	d for its aromat tablished the fi	ic properties and irst hop farm east
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
MARILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
roma: Grapefruit, Orange, Lemon, Melon, Apr	icot, Peach			
Discovered by Virgil Gamache Farms, Amarillo eatures relatively high alpha acids along with	o [®] is one of the top extremely high level	ten aroma varie s of myrcene for	ties utilised by citrus and gra	v craft brewers. It pefruit flavours.
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
roma: Mango, Papaya, Orange, Grapefruit, Le	mon, Piney, Spicy, Pi	neapple, Grassy,	Tropical Fruit,	Citrus
zacca®, named for the Haitian god of agric romatic qualities have quickly made Azacca®	ulture, is a hop big a go-to hop for late a	in citrus and tro and dry hop add	opical fruit tor litions in varyir	nes. It's excellent ng styles of beer.
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ASCADE	Aroma	5.5-9	6-7.5	0.8-2
roma: Grapefruit, Floral, Pine				
priginating from the USDA-ARA breeding prog	gram, Cascade is an a	aroma-type culti	var bred in 195	6 and released in
972. Was developed by open pollination of a Fugg known for having a unique floral, spicy and c	le seedling. Cascade itrus character, with	is the most pop balanced bitteri	ular variety in on a potential.	craft brewing and
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ASHMERE	Dual-Purpose	7-10	6-7	0.5-1.5
eveloped by Washington State University an nd Northern Brewer. It contains higher alpha	d released in 2013, C acid content than C a.	ashmere is the ascade and twi	result of a mar ce as much hu	riage of Cascade
mooth bitterness and a mild citrus fruit aroma				mulene providing
mooth bitterness and a mild citrus fruit aroma op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
mooth bitterness and a mild citrus fruit aroma	Brewing Usage Dual-Purpose	Alpha Acid % 8.5-12	Beta Acid % 3.5-5.5	
mooth bitterness and a mild citrus fruit aroma op Variety				Total Oil (mL/100g)
mooth bitterness and a mild citrus fruit aroma op Variety <mark>ENTENNIAL</mark>	Dual-Purpose University in 1990, Ce craft brewing. It is o	8.5-12 entennial is an are	3.5-5.5 oma-type cultiv	Total Oil (mL/100g) 1-3 var that has found
mooth bitterness and a mild citrus fruit aroma op Variety ENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State I avour as one of the most popular varieties in early double the alpha content), and can be	Dual-Purpose University in 1990, Ce craft brewing. It is o	8.5-12 entennial is an are	3.5-5.5 oma-type cultiv	Total Oil (mL/100g) 1-3 var that has found
mooth bitterness and a mild citrus fruit aroma op Variety ENTENNIAL Aroma: Lemon, Floral, Orange Blossom Gred in 1974 and released by Washington State avour as one of the most popular varieties in early double the alpha content), and can be irewer's Gold and a USDA male.	Dual-Purpose University in 1990, Ce craft brewing. It is o used for bittering p	8.5-12 entennial is an ard ften referred to urposes. Center	3.5-5.5 oma-type cultin as a super-Cas nnial is a diplo	Total Oil (mL/100g) 1-3 var that has found scade (containing id cross between
mooth bitterness and a mild citrus fruit aroma op Variety ENTENNIAL Aroma: Lemon, Floral, Orange Blossom avour as one of the most popular varieties in early double the alpha content), and can be arewer's Gold and a USDA male.	Dual-Purpose University in 1990, Ce craft brewing. It is o used for bittering p Brewing Usage	8.5-12 entennial is an ard ften referred to urposes. Center Alpha Acid %	3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid %	Total Oil (mL/100g) 1-3 var that has found scade (containing id cross between Total Oil (mL/100g)
mooth bitterness and a mild citrus fruit aroma op Variety ENTENNIAL Aroma: Lemon, Floral, Orange Blossom Gred in 1974 and released by Washington State avour as one of the most popular varieties in early double the alpha content), and can be irewer's Gold and a USDA male. Op Variety HINOOK	Dual-Purpose University in 1990, Ce craft brewing. It is o used for bittering p Brewing Usage Dual-Purpose	8.5-12 Intennial is an ard ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea	3.5-5.5 oma-type cultin as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig irs. it has found	Total Oil (mL/100g) 1-3 var that has found scade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-
mooth bitterness and a mild citrus fruit aroma op Variety ENTENNIAL Aroma: Lemon, Floral, Orange Blossom Gred in 1974 and released by Washington State I avour as one of the most popular varieties in early double the alpha content), and can be rewer's Gold and a USDA male. Op Variety HINOOK Aroma: Grapefruit, Spicy, Pine Developed by the USDA breeding program ir ariety, Chinook is a cross between Petham Go	Dual-Purpose University in 1990, Ce craft brewing. It is o used for bittering p Brewing Usage Dual-Purpose	8.5-12 Intennial is an ard ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea	3.5-5.5 oma-type cultin as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig irs. it has found	Total Oil (mL/100g) 1-3 var that has found scade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-

AHTANUM® BRAND YCR 1	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
	Aroma	4-6	4 - 6	0.5 - 1.7
roma: Grapefruit, Floral, Cedar				
red by Yakima Chief Ranches, Ahtanum [®] Brand N noderate bittering. The hop is named after the lo f the Cascade Mountains in Washington State ir	ocation where Charl	ype cultivar usec les Carpenter es	l for its aromat tablished the fi	ic properties and rst hop farm east
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
MARILLO [®] BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
roma: Grapefruit, Orange, Lemon, Melon, Apric	ot, Peach			
Discovered by Virgil Gamache Farms, Amarillo® eatures relatively high alpha acids along with ex	is one of the top t xtremely high levels	ten aroma varie s of myrcene for	ties utilised by citrus and gra	v craft brewers. It pefruit flavours.
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
roma: Mango, Papaya, Orange, Grapefruit, Lem	on, Piney, Spicy, Pi	neapple, Grassy,	Tropical Fruit,	Citrus
zacca®, named for the Haitian god of agricult romatic qualities have quickly made Azacca® a	ture, is a hop big i go-to hop for late a	in citrus and tro and dry hop add	opical fruit tor itions in varyin	nes. It's excellent ig styles of beer.
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ASCADE	Aroma	5.5-9	6-7.5	0.8-2
roma: Grapefruit, Floral, Pine				
riginating from the USDA-ARA breeding progra	am, Cascade is an a	aroma-type culti	var bred in 195	6 and released in
972. was developed by open pollination of a Fuggle known for having a unique floral, spicy and cit	e seedling. Cascade rus character, with	is the most pop balanced bitteri	ular variety in o ng potential.	craft brewing and
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ASHMERE	Dual-Purpose	7-10	6-7	0.5-1.5
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a	released in 2013, C cid content than C	Cashmere is the ascade and twic	result of a mar ce as much hui	riage of Cascade nulene providing
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma.	released in 2013, C icid content than C Brewing Usage	Cashmere is the ascade and twice	result of a mar ce as much hui Beta Acid %	Total Oil (mL/100g)
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma.				
aroma: Melon, Lemon, Lime, Spice veveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL aroma: Lemon, Floral, Orange Blossom	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL aroma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Ur avour as one of the most popular varieties in cr early double the alpha content), and can be u	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing, It is o	Alpha Acid % 8.5-12 entennial is an arc	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas	Total Oil (mL/100g) 1-3 Var that has found
eveloped by Washington State University and no Northern Brewer. It contains higher alpha a nooth bitterness and a mild citrus fruit aroma. P Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Ur vour as one of the most popular varieties in cr early double the alpha content), and can be u rewer's Gold and a USDA male.	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing, It is o	Alpha Acid % 8.5-12 entennial is an arc	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas	Total Oil (mL/100g) 1-3 Var that has found
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Ur vour as one of the most popular varieties in cr early double the alpha content), and can be u rewer's Gold and a USDA male.	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of used for bittering p	Alpha Acid % 8.5-12 entennial is an arc ften referred to urposes. Center	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo	Total Oil (mL/100g) 1-3 var that has found ccade (containing id cross between
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Un your as one of the most popular varieties in cr early double the alpha content), and can be u rewer's Gold and a USDA male. op Variety HINOOK	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of ised for bittering p Brewing Usage	Alpha Acid % 8.5-12 entennial is an arc ften referred to urposes. Center Alpha Acid %	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas inial is a diplo Beta Acid %	Total Oil (mL/100g) 1-3 var that has found cade (containing id cross between Total Oil (mL/100g)
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Ur avour as one of the most popular varieties in cr early double the alpha content), and can be u rewer's Gold and a USDA male. op Variety HINOOK roma: Grapefruit, Spicy, Pine eveloped by the USDA breeding program in Variety. ariety. Chinook is a cross between Petham Gold	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of used for bittering p Brewing Usage Dual-Purpose Washington State	Alpha Acid % 8.5-12 entennial is an arc ften referred to ourposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig rs. it has found	Total Oil (mL/100g) 1-3 var that has found icade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State Univour as one of the most popular varieties in crearly double the alpha content), and can be unever's Gold and a USDA male. op Variety HINOOK roma: Grapefruit, Spicy, Pine eveloped by the USDA breeding program in Cariety, Chinook is a cross between Petham Gold urpose hop in the craft-brewing community as	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of used for bittering p Brewing Usage Dual-Purpose Washington State	Alpha Acid % 8.5-12 entennial is an arc ften referred to ourposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea	Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig rs. it has found	Total Oil (mL/100g) 1-3 var that has found icade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual-
eveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. pp Variety ENTENNIAL roma: Lemon, Floral, Orange Blossom red in 1974 and released by Washington State University are of the most popular varieties in crearly double the alpha content), and can be unever's Gold and a USDA male. pp Variety HINOOK roma: Grapefruit, Spicy, Pine eveloped by the USDA breeding program in Mariety, Chinook is a cross between Petham Gold urpose hop in the craft-brewing community as	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of used for bittering p Brewing Usage Dual-Purpose Washington State ling and a USDA ma a result of its spice	Alpha Acid % 8.5-12 entennial is an arc ften referred to ourposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea and pine aroma	Beta Acid % 3.5-5.5 oma-type cultivas a super-Cas nnial is a diplo Beta Acid % 3-4 1985 as a hig rs, it has found characteristic	Total Oil (mL/100g) 1-3 var that has found id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual- s.
veveloped by Washington State University and nd Northern Brewer. It contains higher alpha a mooth bitterness and a mild citrus fruit aroma. op Variety ENTENNIAL	Brewing Usage Dual-Purpose niversity in 1990, Ce raft brewing. It is of used for bittering p Brewing Usage Dual-Purpose Washington State ling and a USDA ma a result of its spice Brewing Usage	Alpha Acid % 8.5-12 entennial is an arc ften referred to urposes. Center Alpha Acid % 11.5-15 and released in ale. In recent yea and pine aroma Alpha Acid %	Beta Acid % 3.5-5.5 Doma-type cultivas a super-Cas inial is a diplo Beta Acid % 3-4 1985 as a hig rs, it has found characteristic Beta Acid %	Total Oil (mL/100g) 1-3 var that has found ccade (containing id cross between Total Oil (mL/100g) 1-2.5 h alpha bittering favour as a dual- s. Total Oil (mL/100g)

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AHTANUM® BRAND YCR 1	Aroma	4-6	4 - 6	0.5 - 1.7
Aroma: Grapefruit, Floral, Cedar				
Bred by Yakima Chief Ranches, Ahtanum [®] Brand Y moderate bittering. The hop is named after the log of the Cascade Mountains in Washington State in	cation where Char	ype cultivar usec les Carpenter es	l for its aromat tablished the fi	ic properties and rst hop farm east
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AMARILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
Aroma: Grapefruit, Orange, Lemon, Melon, Aprico	ot, Peach			
Discovered by Virgil Gamache Farms, Amarillo® features relatively high alpha acids along with ex	is one of the top tremely high level	ten aroma varie s of myrcene for	ties utilised by citrus and gra	r craft brewers. It pefruit flavours.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
Aroma: Mango, Papaya, Orange, Grapefruit, Lemo	on, Piney, Spicy, Pi	neapple, Grassy,	Tropical Fruit,	Citrus
Azacca®, named for the Haitian god of agricult aromatic qualities have quickly made Azacca® a g	ure, is a hop big jo-to hop for late a	in citrus and tro and dry hop add	opical fruit tor itions in varyin	nes. It's excellent Ig styles of beer.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	5.5-9	6-7.5	0.8-2
Aroma: Grapefruit, Floral, Pine				
Driginating from the USDA-ARA breeding progra	m, Cascade is an a	aroma-type culti	var bred in 195	6 and released in
1972. t was developed by open pollination of a Fuggle	seedling. Cascade	is the most pop	ular variety in o	craft brewing and
is known for having a unique floral, spicy and citr	us character, with	balanced bitteri	ng potential.	
s known for having a unique floral, spicy and citr	us character, with Brewing Usage	balanced bitteri	ng potential. Beta Acid %	Total Oil (mL/100g)
is known for having a unique floral, spicy and citr Hop Variety CASHMERE	us character, with	balanced bitteri	ng potential.	
s known for having a unique floral, spicy and citr Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r and Northern Brewer. It contains higher alpha ac	us character, with Brewing Usage Dual-Purpose	Alpha Acid %	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
s known for having a unique floral, spicy and citr lop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r Ind Northern Brewer. It contains higher alpha ac mooth bitterness and a mild citrus fruit aroma.	us character, with Brewing Usage Dual-Purpose	Alpha Acid %	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
s known for having a unique floral, spicy and citr lop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r and Northern Brewer. It contains higher alpha ac smooth bitterness and a mild citrus fruit aroma.	us character, with Brewing Usage Dual-Purpose released in 2013, C id content than C	Alpha Acid % 7-10	ng potential. Beta Acid % 6-7 result of a mar ce as much hui	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing
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s known for having a unique floral, spicy and citr lop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r and Northern Brewer. It contains higher alpha ac smooth bitterness and a mild citrus fruit aroma. lop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Un avour as one of the most popular varieties in cra hearly double the alpha content), and can be us Brewer's Gold and a USDA male.	us character, with Brewing Usage Dual-Purpose eleased in 2013, C id content than C Brewing Usage Dual-Purpose iversity in 1990, Ce off brewing. It is o	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12	ng potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas	Total Oil (mL/100g) 0.5-1.5 Triage of Cascade mulene providing Total Oil (mL/100g) 1-3
s known for having a unique floral, spicy and citr Iop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r and Northern Brewer. It contains higher alpha ac smooth bitterness and a mild citrus fruit aroma. Iop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Un avour as one of the most popular varieties in cra- avour as one	us character, with Brewing Usage Dual-Purpose eleased in 2013, C id content than C Brewing Usage Dual-Purpose iversity in 1990, Ce aft brewing. It is o sed for bittering p	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12 entennial is an arc ften referred to urposes. Center	ng potential. Beta Acid % 6-7 result of a mar ce as much hui Beta Acid % 3.5-5.5 oma-type cultiv as a super-Cas inial is a diplo	Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found ccade (containing id cross between
s known for having a unique floral, spicy and citr Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and r and Northern Brewer. It contains higher alpha ac smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Un avour as one of the most popular varieties in cra hearly double the alpha content), and can be us Brewer's Gold and a USDA male. Hop Variety CHINOOK	us character, with Brewing Usage Dual-Purpose eleased in 2013, C id content than C Brewing Usage Dual-Purpose iversity in 1990, Ce aft brewing. It is o sed for bittering p Brewing Usage	balanced bitteri Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid % 8.5-12 entennial is an arc ften referred to urposes. Center Alpha Acid %	ng potential. Beta Acid % 6-7 result of a mar ce as much hur Beta Acid % 3.5-5.5 pma-type cultiv as a super-Cas mial is a diplo Beta Acid %	Total Oil (mL/100g) 0.5-1.5 Triage of Cascade mulene providing Total Oil (mL/100g) 1-3 Var that has found ccade (containing id cross between Total Oil (mL/100g)
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Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AHTANUM® BRAND YCR 1	Aroma	4-6	4 - 6	0.5 - 1.7
Aroma: Grapefruit, Floral, Cedar				
Bred by Yakima Chief Ranches, Ahtanum Brand YCI moderate bittering. The hop is named after the loca of the Cascade Mountains in Washington State in 18	tion where Charl	/pe cultivar usec es Carpenter est	l for its aromat ablished the fi	ic properties and rst hop farm east
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AMARILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
Aroma: Grapefruit, Orange, Lemon, Melon, Apricot	Peach			
Discovered by Virgil Gamache Farms, Amarillo [®] is features relatively high alpha acids along with extra	one of the top t emely high levels	ten aroma variet s of myrcene for	ties utilised by citrus and gra	craft brewers. It pefruit flavours.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
Aroma: Mango, Papaya, Orange, Grapefruit, Lemon	, Piney, Spicy, Piı	neapple, Grassy,	Tropical Fruit,	Citrus
Azacca [®] , named for the Haitian god of agricultur aromatic qualities have quickly made Azacca [®] a go	e, is a hop big i -to hop for late a	in citrus and tro and dry hop add	ppical fruit ton itions in varyin	es. It's excellent g styles of beer.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	5.5-9	6-7.5	0.8-2
Aroma: Grapefruit, Floral, Pine				
Originating from the USDA-ARA breeding program	, Cascade is an a	roma-type culti	var bred in 195	6 and released in
1972. It was developed by open pollination of a Fuggle se	edling, Cascade	is the most pop	ular variety in d	raft brewing and
is known for having a unique floral, spicy and citrus	character, with	balanced bitteri	ng potential.	
Hop Variety	Brewing Usage	Alpha Acid %	ng potential. Beta Acid %	Total Oil (mL/100g)
is known for having a unique floral, spicy and citrus	character, with	balanced bitteri	ng potential.	
is known for having a unique floral, spicy and citrus Hop Variety	Brewing Usage	Alpha Acid %	ng potential. Beta Acid %	Total Oil (mL/100g)
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE	Brewing Usage Dual-Purpose	balanced bitteri Alpha Acid % 7-10	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid	Brewing Usage Dual-Purpose	balanced bitteri Alpha Acid % 7-10	ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
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is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety	Brewing Usage Dual-Purpose eased in 2013, C content than C	Alpha Acid % 7-10 Gashmere is the r ascade and twic Alpha Acid %	ng potential. Beta Acid % 6-7 result of a mar se as much hur Beta Acid %	Total Oil (mL/100g) 0.5-1.5 riage of Cascade nulene providing Total Oil (mL/100g)
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is known for having a unique floral, spicy and citrus Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University and rel and Northern Brewer. It contains higher alpha acid smooth bitterness and a mild citrus fruit aroma. Hop Variety CENTENNIAL Aroma: Lemon, Floral, Orange Blossom Bred in 1974 and released by Washington State Univ favour as one of the most popular varieties in craft nearly double the alpha content), and can be user Brewer's Gold and a USDA male.	e character, with Brewing Usage Dual-Purpose eased in 2013, C content than C Brewing Usage Dual-Purpose ersity in 1990, Ce brewing. It is of d for bittering p	balanced bitteri Alpha Acid % 7-10 asshmere is the r ascade and twice Alpha Acid % 8.5-12 ntennial is an arc ften referred to urposes. Center	ng potential. Beta Acid % 6-7 result of a mar result of a mar beta Acid % 3.5-5.5 Doma-type cultival as a super-Cas onial is a diploi	Total Oil (mL/100g) 0.5-1.5 riage of Cascade mulene providing Total Oil (mL/100g) 1-3 var that has found cade (containing d cross between
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Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AHTANUM® BRAND YCR 1	Aroma	4-6	4 - 6	0.5 - 1.7
Aroma: Grapefruit, Floral, Cedar				
Bred by Yakima Chief Ranches, Ahtanum [®] Brar moderate bittering. The hop is named after the of the Cascade Mountains in Washington Stat	e location where Char	ype cultivar used les Carpenter es	l for its aromat tablished the f	tic properties and irst hop farm east
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AMARILLO® BRAND VGXP01	Aroma	7-11	5.5 - 8	1-2.5
Aroma: Grapefruit, Orange, Lemon, Melon, Ap	oricot, Peach			
Discovered by Virgil Gamache Farms, Amaril features relatively high alpha acids along witl	llo® is one of the top h extremely high level	ten aroma varie s of myrcene for	ties utilised by citrus and gra	/ craft brewers. It pefruit flavours.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AZACCA® BRAND ADHA 483	Aroma	10-14	4-5.5	1-2
Aroma: Mango, Papaya, Orange, Grapefruit, L	emon, Piney, Spicy, Pi	neapple, Grassy,	Tropical Fruit,	, Citrus
Azacca®, named for the Haitian god of agric aromatic qualities have quickly made Azacca	culture, is a hop big ® a go-to hop for late a	in citrus and tro and dry hop add	opical fruit tor litions in varyir	nes. It's excellent ng styles of beer.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	5.5-9	6-7.5	0.8-2
Aroma: Grapefruit, Floral, Pine Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and	ale seedling. Cascade	is the most pop	ular variety in	
Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and Hop Variety	gle seedling. Cascade citrus character, with Brewing Usage	is the most pop balanced bitteri	ular variety in ng potential. Beta Acid %	craft brewing and Total Oil (mL/100g)
Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and	gle seedling. Cascade citrus character, with	is the most pop balanced bitteri	ular variety in ng potential.	craft brewing and
Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and Hop Variety CASHMERE	nd released in 2013, Cascade	Alpha Acid %	ular variety in ng potential. Beta Acid % 6-7	Total Oil (mL/100g) 0.5-1.5
Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University a and Northern Brewer. It contains higher alph smooth bitterness and a mild citrus fruit arom	ggle seedling. Cascade citrus character, with Brewing Usage Dual-Purpose nd released in 2013, C a acid content than C na.	Alpha Acid % 7-10	ular variety in ng potential. Beta Acid % 6-7 result of a mai ce as much hu	craft brewing and Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing
Originating from the USDA-ARA breeding pro 1972. It was developed by open pollination of a Fug is known for having a unique floral, spicy and Hop Variety CASHMERE Aroma: Melon, Lemon, Lime, Spice Developed by Washington State University a and Northern Brewer. It contains higher alph smooth bitterness and a mild citrus fruit aron	ggle seedling. Cascade citrus character, with Brewing Usage Dual-Purpose nd released in 2013, C a acid content than C na. Brewing Usage	Alpha Acid % 7-10 Cashmere is the ascade and twice Alpha Acid %	ular variety in ng potential. Beta Acid % 6-7 result of a mai ce as much hu Beta Acid %	craft brewing and Total Oil (mL/100g) 0.5-1.5 rriage of Cascade mulene providing Total Oil (mL/100g)
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imparting distinct citrus and tropical fruit flavours.

T-90 HOP

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COLUMBUS/CTZ	Bittering	15-17.5	4.5 - 6	2-4

Aroma: Black Pepper, Dank, Berry

Originally selected by Charles Zimmerman for Hopunion, Columbus is a descendant of Nugget. It is a high alpha variety and is primarily used for bittering purposes. Columbus is often referred to as CTZ, a trio of similar hops including Tomahawk[®] and Zeus.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COMET	Bittering	8-10.5	4-5	1-2

Aroma: "Wild American', Grapefruit, Green Grass

Developed in 1961 and released in 1974 by the USDA, Comet was originally utilised for its high alpha acid content and adapability to growing conditions in the Yakima Valley. Commercial production ceased in the early 1980s in favour of newer super-alpha hops; however, Comet has made a recent comeback, finding favour with some brewers in dual-purpose applications for its subtle and unique "wild American" aroma.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CRYSTAL	Aroma	3-6	6-8	0.8-2

Aroma: Wood

Bred in 1983 by the USDA, Crystal is a triploid aroma-type cultivar from Hallertau Mittelfrüh, Cascade, Brewer's Gold and Early Green. It is primarily grown in Oregon and has become increasingly popular among craft brewers due to its versatility in a variety of beer styles.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
EKUANOT® BRAND HBC 366	Aroma	14-16	4-5.5	2.5-5

Aroma: Melon, Berry, Lime, Apple, Tropical, Green Pepper, Mango, Orange

Developed by Hop Breeding Company and released in 2014, Ekuanot[®] Brand HBC 366 features pronounced aroma characteristics and extremely high oil content. This variety bursts out of the spring soil in vibrant yellow and gradually matures to a deep green colour by Autumn harvest.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
EL DORADO® BRAND	Aroma	13-17	7-8	2.5-3.3

Aroma: Cherry, Apricot, Pear, Citrus, Watermelon, Grass, Wood, Mint

El Dorado was developed in 2008, and released in 2010 by CLS Farms in the Moxee, Washington.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
FALCONER'S FLIGHT® BLEND	Aroma	9.5-12	4-5	1.4-2

Aroma: Grapefruit

Developed by Hopunion LLC in 2010, Falconer's Flight® hop pellets are an exclusive proprietary hop blend created to honour and support the legacy of the Northwest brewing legend, Glen Hay Falconer. Proceeds from each Falconer's Flight[®] purchase is contributed to the Glen Hay Falconer Foundation. These hop pellets are an excellent complement to many IPA and Pale Ale-oriented hop varieties.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
IDAHO 7 [®] BRAND J-007	Aroma	12-14	3.5 - 5	1-3

Aroma: Pineapple, Peach, Pine, Resin, Mango, Black Tea

Idaho 7° was bred and released by Jackson Farms near Boise, Idaho. Idaho 7° presents as pungent tropical fruit and citrus (think apricot, orange, red grapefruit, papaya) with big notes of resiny pine and hints of black tea.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100
LORAL® BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fr	uit			
Developed by Hop Breeding Company and rele the fence between old-and-new world hop ar very versatile hop in the brewery.	ased in 2016, Loral® B omatics. It has the ab	rand HBC 291 ha ility to compler	s a noble herita nent all beer st	ige that straddle tyles, making it
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
of aromas and flavours it is capable of present	-	Alpha Acid %	Beta Acid %	Total Oil (mL/100
lop Variety	Brewing Usage			
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano.	Aroma eding program in Or nd German Hersbruc	4-6.5 egon in 1989, M ker. Mt. Hood is	5-8 t. Hood is a tri named after th	0.8-2 ploid aroma typ e famous Orego
Hop Variety MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral	Aroma	4-6.5	5-8 t. Hood is a tri	0.8-2
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the parts)	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness	0.8-2 ploid aroma typ e famous Orego Total Oil (mL/100) 1.5-3 ; for the boil. Th
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow i Cascades provides irrigation for farms and rar	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the parts)	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness	0.8-2 ploid aroma typ e famous Orego Total Oil (mL/100) 1.5-3 ; for the boil. Th
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC682 story is every bit as refreshing. Snow i Cascades provides irrigation for farms and rar	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the p icches throughout the	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for Yakima Valley.	5-8 t. Hood is a tri named after th Beta Acid % 5-8 5-8 s of bitterness Mt. Adams) and	0.8-2 ploid aroma typ e famous Orego Total Oil (mL/100) 1.5-3 t for the boil. Th d the neighborin
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rar	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the patholic the pat	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for I Yakima Valley. Alpha Acid %	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness Mt. Adams) and Beta Acid %	0.8-2 ploid aroma typ e famous Orego Total Oil (mL/100, 1.5-3 for the boil. Th d the neighborin Total Oil (mL/100
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow i	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the plattick) Ches throughout the Brewing Usage Aroma Panad YCR 4 is known	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	5-8 t. Hood is a tri named after th Beta Acid % 5-8 Mt. Adams) and Beta Acid % 6-8 vield and unig	0.8-2 ploid aroma typ e famous Orego Total Oil (mL/100) 1.5-3 for the boil. Th d the neighborin Total Oil (mL/100) 0.8 - 2 ue aroma profil
Aroma: Pungent Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Iop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow in Cascades provides irrigation for farms and rar Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions.	Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the plattick) Ches throughout the Brewing Usage Aroma Panad YCR 4 is known	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	5-8 t. Hood is a tri named after th Beta Acid % 5-8 Mt. Adams) and Beta Acid % 6-8 vield and unig	0.8-2 ploid aroma type e famous Orego Total Oil (mL/100, 1.5-3 a for the boil. The d the neighborin Total Oil (mL/100 0.8 - 2 ue aroma profil ex characteristic
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MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 is a super alpha hop that consistent Cascades provides irrigation for farms and rar Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Hop Variety THE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody	Aroma Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an nelt from Pahto (the r loches throughout the Brewing Usage Aroma e Brand YCR 4 is known Brewing Usage Dual-Purpose	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for I Yakima Valley. Alpha Acid % 6.5-9 bwn for its high pose hop, howeve Alpha Acid % 12.4	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more completion Beta Acid % 5.5	0.8-2 ploid aroma type e famous Orego Total Oil (mL/100 1.5-3 for the boil. The d the neighborin Total Oil (mL/100 0.8 - 2 ue aroma profil ex characteristic Total Oil (mL/100 2.3
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow r Cascades provides irrigation for farms and rar Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid. Palisade® borders	Aroma Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an melt from Pahto (the r browing Usage Aroma e Brewing Usage Aroma e Brand YCR 4 is known Brewing Usage Dual-Purpose virtually by Pink Boo	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for I Yakima Valley. Alpha Acid % 6.5-9 bwn for its high pose hop, howeve Alpha Acid % 12.4	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more comple Beta Acid % 5.5	0.8-2 ploid aroma type e famous Orego Total Oil (mL/100) 1.5-3 a for the boil. The d the neighborin Total Oil (mL/100) 0.8 - 2 ue aroma profillex characteristic Total Oil (mL/100) 2.3 and the globe. The
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow in Cascades provides irrigation for farms and rar Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Hop Variety THE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody The 6th Annual Pink Boots Blend was chosen chosen blend is made up of Loral®, HBC 586 &	Aroma Aroma eding program in Or nd German Hersbruc Brewing Usage Bittering ly delivers a clean an melt from Pahto (the r browing Usage Aroma e Brewing Usage Aroma e Brand YCR 4 is known Brewing Usage Dual-Purpose virtually by Pink Boo	4-6.5 egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 d smooth canva native name for I Yakima Valley. Alpha Acid % 6.5-9 bwn for its high pose hop, howeve Alpha Acid % 12.4	5-8 t. Hood is a tri named after th Beta Acid % 5-8 s of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more comple Beta Acid % 5.5	0.8-2 ploid aroma type e famous Orego Total Oil (mL/100 1.5-3 a for the boil. The d the neighborin Total Oil (mL/100 0.8 - 2 ue aroma profil ex characteristic Total Oil (mL/100 2.3 and the globe. The

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
LORAL® BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fru				
Developed by Hop Breeding Company and relea the fence between old-and-new world hop arc very versatile hop in the brewery.	ased in 2016, Loral® B omatics. It has the ak	rand HBC 291 ha bility to compler	s a noble herita nent all beer si	ge that strado yles, making:
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
Developed by Hop Breeding Company and rel and features a unique and complex aroma pr daughter of Simcoe® Brand YCR 14 and a Nugg of aromas and flavours it is capable of present	ofile that translates et-derived male. Mos ing.	favourably into aic® is named in	a variety of b honor of the ar	eer styles. It tistic assortm
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
	Aromo	465	E 0	000
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA brea cultivar with similarities to German Hallertau a volcano.	nd Germañ Hersbruc	kēr. Mt. Hood is	named after th	e famous Ore
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau at volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the p	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil.
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau at volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the p ches throughout the	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley.	t. Hood is a tri named after th Beta Acid % 5-8 5-8 Mt. Adams) and	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo
AT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA breaultivar with similarities to German Hallertau an olcano. Op Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the p	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo
Aroma: Pungent Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau at volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran Hop Variety PALISADE® BRAND YCR 4	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the r ches throughout the Brewing Usage	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 nd smooth canva native name for Yakima Valley. Alpha Acid %	t. Hood is a tri named after th Beta Acid % 5-8 S of bitterness Mt. Adams) and Beta Acid %	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bre- cultivar with similarities to German Hallertau a volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	t. Hood is a tri named after th Beta Acid % 5-8 Mt. Adams) and Beta Acid % 6-8 vield and unig	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8-2
AT. HOOD Arroma: Pungent Bred in 1983 and released from the USDA breau ultivar with similarities to German Hallertau an olcano. op Variety HBC 682 roma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC 682 is a super alpha hop that consistent! HBC 682 story is every bit as refreshing. Snow n cascades provides irrigation for farms and ran hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of re seen in later additions.	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	t. Hood is a tri named after th Beta Acid % 5-8 Mt. Adams) and Beta Acid % 6-8 vield and unig	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8-2 ue aroma pro ex characteris
Aroma: Pungent Aroma: Pungent Bred in 1983 and released from the USDA brea sultivar with similarities to German Hallertau and iolcano. Iop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 is a super alpha hop that consistent HBC 682 is a super alpha hop that consistent BC 68	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the r ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve	t. Hood is a tri named after th Beta Acid % 5-8 Mt. Adams) and Beta Acid % 6-8 yield and uniq	ploid aroma t e famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8-2 ue aroma pro ex characteris
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA breac cultivar with similarities to German Hallertau at volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistentil HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Hop Variety THE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the r ches throughout the Brewing Usage Aroma ® Brand YCR 4 is known Brewing Usage Brewing Usage Dual-Purpose	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve Alpha Acid % 12.4	t. Hood is a tri named after the Beta Acid % 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8	ploid aroma t famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro ex characteris Total Oil (mL/1 2.3
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau at volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Hop Variety THE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody The 6th Annual Pink Boots Blend was chosen w chosen blend is made up of Loral®, HBC 586 & rruit aromas.	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the p ches throughout the Brewing Usage Aroma * Brand YCR 4 is known being a dual purpose Brewing Usage Dual-Purpose	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 ad smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 bown for its high ose hop, howeve Alpha Acid % 12.4 ts Society meml so with expected	t. Hood is a tri named after the Beta Acid % 5-8 bes of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more comple Beta Acid % 5.5 bers from aroun floral, citrus, t	Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro ex characteris Total Oil (mL/1 2.3 nd the globe. ropical and st
Aroma: Pungent Bred in 1983 and released from the USDA breac Structivar with similarities to German Hallertau and volcano. Iop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and ran Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Hop Variety HE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody The 6th Annual Pink Boots Blend was chosen we chosen blend is made up of Loral®, HBC 586 &	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an nelt from Pahto (the r ches throughout the Brewing Usage Aroma ® Brand YCR 4 is known Brewing Usage Brewing Usage Dual-Purpose	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve Alpha Acid % 12.4	t. Hood is a tri named after the Beta Acid % 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8 5-8	ploid aroma t famous Ore Total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8-2 ue aroma pro ex characteris Total Oil (mL/1 2.3

PELL	E	TS		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
LORAL® BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fruit				
Developed by Hop Breeding Company and release the fence between old-and-new world hop arom very versatile hop in the brewery.	ed in 2016, Loral® B atics. It has the ab	rand HBC 291 ha ility to compler	s a noble herita nent all beer si	ge that strado yles, making
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
Developed by Hop Breeding Company and relea and features a unique and complex aroma profi daughter of Simcoe® Brand YCR 14 and a Nugget- of aromas and flavours it is capable of presenting	le that translates derived male. Mos	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ar	gh alpha cont eer styles. It tistic assortm
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MT. HOOD	Aroma	4-6.5	5-8	0.8-2
Aroma: Pungent				
Bred in 1983 and released from the USDA breed cultivar with similarities to German Hallertau and volcano.	ing program in Or German Hersbruc	egon in 1989, M ker. Mt. Hood is	t. Hood is a tri named after th	ploid aroma t e famous Ore
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
HBC 682	Bittering	17-20	5-8	1.5-3
Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistently of HBC682 story is every bit as refreshing. Snow mel Cascades provides irrigation for farms and ranch	t from Pahto (the r	native name for	as of bitterness Mt. Adams) and	for the boil. I the neighbo
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
PALISADE® BRAND YCR 4	Aroma	6.5-9	6-8	0.8 - 2
Aroma: Apricot, Green Grass, Floral				
Developed by Yakima Chief Ranches, Palisade® E With moderate alpha acid, Palisade® borders on are seen in later additions.	Brand YCR 4 is kno being a dual purpo	own for its high ose hop, howeve	yield and uniq er, more compl	ue aroma pro ex characteris
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
THE 6TH ANNUAL PINK BOOTS HOP BLEND*	Dual-Purpose	12.4	5.5	2.3
Aroma: Tropical, herbal, citrus & woody				
The 6th Annual Pink Boots Blend was chosen vir chosen blend is made up of Loral®, HBC 586 & El fruit aromas.	tually by Pink Boot kuanot® brand hop	ts Society meml s with expected	bers from aroui I floral, citrus, t	nd the globe. ropical and st
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
SABRO™ BRAND HBC 438	Dual-Purpose	14-17	5-7	2-4
Aroma: Citrus, Stone Fruit, Coconut, Tropical Fru	-			
Sabro [™] HBC 438 is the newest release from the for its complexity of fruity and citrus flavours. S female neomexicanus hop. With a robust brewing translates its flavour incredibly well into beer.	Hop Breeding Cor abro's™ pedigree performance, Sab	mpany. Sabro™ is the result of pro™ proves to b	is an aroma ho a unique cross e a strongly exp	p that is nota pollination o pressive hop t

PELL	.Е			
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
LORAL® BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fruit				
Developed by Hop Breeding Company and releas the fence between old-and-new world hop aror very versatile hop in the brewery.	natics. It has the ab	ility to compler	nent all beer st	ge that strade yles, making
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
Developed by Hop Breeding Company and rele and features a unique and complex aroma pro daughter of Simcoe® Brand YCR 14 and a Nugget of aromas and flavours it is capable of presentir	file that translates -derived male. Mos	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ar	gh alpha cont eer styles. It tistic assortm
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MT. HOOD	Aroma	4-6.5	5-8	0.8-2
Aroma: Pungent				
Bred in 1983 and released from the USDA breed cultivar with similarities to German Hallertau and volcano.	ding program in Or d German Hersbruc	egon in 1989, M ker. Mt. Hood is	t. Hood is a tri named after th	ploid aroma t e famous Ore
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
HBC 682	Bittering	17-20	5-8	1.5-3
Aroma: Herbal, Earthy, Floral				
HBC 682 is a super alpha hop that consistently HBC682 story is every bit as refreshing. Snow me Cascades provides irrigation for farms and ranc	elt from Pahto (the r	native name for	as of bitterness Mt. Adams) and	for the boil. I the neighbo
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
PALISADE® BRAND YCR 4	Aroma	6.5-9	6-8	0.8 - 2
Aroma: Apricot, Green Grass, Floral				
Developed by Yakima Chief Ranches, Palisade® With moderate alpha acid, Palisade® borders on are seen in later additions.	Brand YCR 4 is kno being a dual purpo	own for its high ose hop, howeve	yield and uniq er, more compl	ue aroma pro ex characteris
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
THE 6TH ANNUAL PINK BOOTS HOP BLEND*	Dual-Purpose	12.4	5.5	2.3
Aroma: Tropical, herbal, citrus & woody				
The 6th Annual Pink Boots Blend was chosen vi chosen blend is made up of Loral®, HBC 586 & B fruit aromas.	rtually by Pink Boot Ekuanot® brand hop	ts Society meml s with expected	bers from arou I floral, citrus, t	nd the globe. ropical and st
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
SABRO™ BRAND HBC 438	Dual-Purpose	14-17	5-7	2-4
Aroma: Citrus, Stone Fruit, Coconut, Tropical Fru		± + ±/	57	
	-	mnany Sabro™	is an aroma ho	n that is not-
Sabro [™] HBC 438 is the newest release from the for its complexity of fruity and citrus flavours. female neomexicanus hop. With a robust brewin translates its flavour incredibly well into beer.	Sabro's™ pedigree g performance, Sab	is the result of pro™ proves to b	a unique cross e a strongly ex	pollination o pressive hop t

Hop VarietyBrewing UseLORAL® BRAND HBC 291Dual-PurpAroma: Floral, Black Pepper, Lemon, Stone FruitDeveloped by Hop Breeding Company and released in 2016, Log the fence between old-and-new world hop aromatics. It has the very versatile hop in the brewery.	ose 11-13.5	5-6 1 has a noble heri	Total Oil (mL/1 1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fruit Developed by Hop Breeding Company and released in 2016, Lo the fence between old-and-new world hop aromatics. It has	ose 11-13.5	5-6 1 has a noble heri	1.5-3
Developed by Hop Breeding Company and released in 2016, Lo the fence between old-and-new world hop aromatics. It has	ral® Brand HBC 29 he ability to com	1 has a noble heri	
the fence between old-and-new world hop aromatics. It has t	ral® Brand HBC 29 he ability to com	1 has a noble heri	
			tage that strade styles, making
Hop Variety Brewing Us	age Alpha Acid %	6 Beta Acid %	Total Oil (mL/1
MOSAIC® BRAND HBC 369 Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical			
Developed by Hop Breeding Company and released in 2012, and features a unique and complex aroma profile that trans daughter of Simcoe [®] Brand YCR 14 and a Nugget-derived male of aromas and flavours it is capable of presenting.	lates favourably i e. Mosaic® is named	nto a variety of d in honor of the	beer styles. It artistic assortm
Hop Variety Brewing Us MT. HOOD Aroma	age Alpha Acid % 4-6.5	6 Beta Acid % 5-8	Total Oil (mL/1 0.8-2
Aroma: Pungent	4-0.5	5-6	0.0-2
Hop VarietyBrewing UsHBC 682BitteringAroma: Herbal, Earthy, FloralHBC 682 is a super alpha hop that consistently delivers a cle HBC682 story is every bit as refreshing. Snow melt from Pahto Cascades provides irrigation for farms and ranches throughout	an and smooth ca (the native name	5-8 anvas of bitterne for Mt. Adams) a	Total Oil (mL/1 1.5-3 ss for the boil. nd the neighbo
Hop Variety Brewing Us	age Alpha Acid 9	6 Beta Acid %	Total Oil (mL/1
PALISADE® BRAND YCR 4 Aroma		6-8	0.8 - 2
Aroma: Apricot, Green Grass, Floral			
	is known for its h	igh yield and un vever, more com	ique aroma pro plex characteris
Developed by Yakima Chief Ranches, Palisade® Brand YCR 4 With moderate alpha acid, Palisade® borders on being a dual are seen in later additions.			
With moderate alpha acid, Palisade® borders on being a dual are seen in later additions.Hop VarietyBrewing U	sage Alpha Acid 9	% Beta Acid %	Total Oil (mL/1
With moderate alpha acid, Palisade® borders on being a dual are seen in later additions.	sage Alpha Acid 9	% Beta Acid % 5.5	Total Oil (mL/1 2.3
With moderate alpha acid, Palisade® borders on being a dual are seen in later additions.Hop VarietyBrewing UTHE 6TH ANNUAL PINK BOOTS HOP BLEND*Dual-PurpAroma: Tropical, herbal, citrus & woodyDual-Purp	sage Alpha Acid 9 ose 12.4	5.5	2.3
With moderate alpha acid, Palisade® borders on being a dual are seen in later additions.Hop VarietyBrewing UTHE 6TH ANNUAL PINK BOOTS HOP BLEND*Dual-Purp	sage Alpha Acid 9 ose 12.4 x Boots Society m	5.5 embers from aro	und the alobe.
With moderate alpha acid, Palisade® borders on being a dual are seen in later additions. Hop Variety Brewing U THE 6TH ANNUAL PINK BOOTS HOP BLEND* Dual-Purp Aroma: Tropical, herbal, citrus & woody The 6th Annual Pink Boots Blend was chosen virtually by Pinl chosen blend is made up of Loral®, HBC 586 & Ekuanot® bran	age Alpha Acid % ose 12.4 C Boots Society m d hops with expect age Alpha Acid %	5.5 embers from aro ted floral, citrus,	2.3 und the globe.

	C -	ГС		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
LORAL [®] BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fruit				
Developed by Hop Breeding Company and releas the fence between old-and-new world hop aron very versatile hop in the brewery.	ed in 2016, Loral® B natics. It has the ab	rand HBC 291 ha bility to compler	s a noble herita nent all beer si	ige that strado tyles, making
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
Developed by Hop Breeding Company and rele- and features a unique and complex aroma pro- daughter of Simcoe® Brand YCR 14 and a Nugget of aromas and flavours it is capable of presentin	file that translates -derived male. Mos	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ar	gh alpha cont eer styles. It tistic assortm
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MT. HOOD	Aroma	4-6.5	5-8	0.8-2
Aroma: Pungent				
Bred in 1983 and released from the USDA breed cultivar with similarities to German Hallertau and volcano.	ding program in Or d German Hersbruc	egon in 1989, M ker. Mt. Hood is	t. Hood is a tri named after th	ploid aroma t e famous Ore
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
HBC 682	Bittering	17-20	5-8	1.5-3
Aroma: Herbal, Earthy, Floral				
HBC 682 is a super alpha hop that consistently HBC682 story is every bit as refreshing. Snow me Cascades provides irrigation for farms and ranch	elt from Pahto (the r	native name for	as of bitterness Mt. Adams) and	for the boil. I the neighbo
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
PALISADE® BRAND YCR 4	Aroma	6.5-9	6-8	0.8 - 2
Aroma: Apricot, Green Grass, Floral				
Developed by Yakima Chief Ranches, Palisade® With moderate alpha acid, Palisade® borders on are seen in later additions.	Brand YCR 4 is kno being a dual purpo	own for its high ose hop, howeve	yield and uniq er, more compl	ue aroma pro ex characteris
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
THE 6TH ANNUAL PINK BOOTS HOP BLEND*	Dual-Purpose	12.4	5.5	2.3
Aroma: Tropical, herbal, citrus & woody				
The 6th Annual Pink Boots Blend was chosen vir chosen blend is made up of Loral®, HBC 586 & E fruit aromas.	rtually by Pink Boot Ekuanot® brand hop	ts Society meml s with expected	pers from aroui I floral, citrus, t	nd the globe. ropical and st
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
SABRO™ BRAND HBC 438	Dual-Purpose	14-17	5-7	2-4
Aroma: Citrus, Stone Fruit, Coconut, Tropical Fru				- ·
		mpany Sabro™	is an aroma bo	n that is not:
Sabro™ HBC 438 is the newest release from the for its complexity of fruity and citrus flavours. female neomexicanus hop. With a robust brewin translates its flavour incredibly well into beer.	Sabro's™ pedigree g performance, Sab	is the result of pro™ proves to b	a unique cross e a strongly ex	pollination opressive hop t

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
LORAL [®] BRAND HBC 291	Dual-Purpose	11-13.5	5-6	1.5-3
Aroma: Floral, Black Pepper, Lemon, Stone Fru	it			
Developed by Hop Breeding Company and relea the fence between old-and-new world hop arc very versatile hop in the brewery.	ased in 2016, Loral® B omatics. It has the at	rand HBC 291 ha bility to compler	s a noble herita nent all beer si	ge that strado yles, making:
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/1
MOSAIC [®] BRAND HBC 369	Aroma	11-14	3-4.5	1-3
Aroma: Berry, Citrus, Floral, Tropical				
and features a unique and complex aroma pr daughter of Simcoe® Brand YCR 14 and a Nuggo of aromas and flavours it is capable of present Hop Variety	ofile that translates et-derived male. Mos ing. Brewing Usage	favourably into aic [®] is named in	a variety of be honor of the ar Beta Acid %	eer styles. It tistic assortm Total Oil (mL/1
	Aroma	4-6.5	5-8	0.8-2
AT, HOOD	Alollia	4-0.0		
Aroma: Pungent Bred in 1983 and released from the USDA bree	eding program in Or	egon in 1989. M	t. Hood is a tri	ploid aroma t e famous Ore
Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau an volcano.	eding program in Or	egon in 1989. M	t. Hood is a tri	ploid aroma t e famous Ore Total Oil (mL/1
Aroma: Pungent Bred in 1983 and released from the USDA bred cultivar with similarities to German Hallertau an volcano. Hop Variety HBC 682	eding program in Or nd German Hersbruc	egon in 1989, M ker. Mt. Hood is	t. Hood is a tri named after th	e famous Ore
Aroma: Pungent Bred in 1983 and released from the USDA bred cultivar with similarities to German Hallertau an volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC 682 story is every bit as refreshing. Snow n	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the p	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness	total Oil (mL/1 1.5-3
Aroma: Pungent Bred in 1983 and released from the USDA bred cultivar with similarities to German Hallertau an volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rand	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the p	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness	total Oil (mL/1 1.5-3
Aroma: Pungent Bred in 1983 and released from the USDA bred ultivar with similarities to German Hallertau an olcano. App Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rand	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the p ches throughout the	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley.	t. Hood is a tri named after th Beta Acid % 5-8 5-8 as of bitterness Mt. Adams) and	the neighbo
Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau an volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistently HBC682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rand Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 ad smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	t. Hood is a tri named after th Beta Acid % 5-8 5-8 Mt. Adams) and Beta Acid % 6-8	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2
MT. HOOD Aroma: Pungent Bred in 1983 and released from the USDA breacultivar with similarities to German Hallertau and volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rand Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions.	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the p ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness Mt. Adams) and Beta Acid % 6-8 vield and unig	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro
Aroma: Pungent Bred in 1983 and released from the USDA bred cultivar with similarities to German Hallertau and volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistently HBC 682 is a super alpha hop that consistentl	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the p ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9	t. Hood is a tri named after th Beta Acid % 5-8 as of bitterness Mt. Adams) and Beta Acid % 6-8 vield and unig	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro ex characteris
Aroma: Pungent Bred in 1983 and released from the USDA bred Sultivar with similarities to German Hallertau and volcano. Iop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistently HBC 682 story is every bit as refreshing. Snow in Cascades provides irrigation for farms and rand Cascades provides irrigation for farms and rand No Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions.	eding program in Or nd German Hersbruc Brewing Usage Bittering y delivers a clean an helt from Pahto (the r ches throughout the Brewing Usage Aroma	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve	t. Hood is a tri named after th Beta Acid % 5-8 As of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro
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Aroma: Pungent Bred in 1983 and released from the USDA bred cultivar with similarities to German Hallertau an volcano. Hop Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistent! HBC 682 story is every bit as refreshing. Snow n Cascades provides irrigation for farms and rand Hop Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of	eding program in Or ad German Hersbruc Brewing Usage Bittering y delivers a clean an elt from Pahto (the r ches throughout the Brewing Usage Aroma * Brand YCR 4 is known being a dual purpor Brewing Usage Dual-Purpose	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve Alpha Acid % 12.4	t. Hood is a tri named after the Beta Acid % 5-8 as of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more complet Beta Acid % 5.5	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro ex characteris Total Oil (mL/1 2.3
Aroma: Pungent Bred in 1983 and released from the USDA bree cultivar with similarities to German Hallertau and volcano. Inp Variety HBC 682 Aroma: Herbal, Earthy, Floral HBC 682 is a super alpha hop that consistently HBC682 story is every bit as refreshing. Snow in Cascades provides irrigation for farms and rand Inp Variety PALISADE® BRAND YCR 4 Aroma: Apricot, Green Grass, Floral Developed by Yakima Chief Ranches, Palisade With moderate alpha acid, Palisade® borders of are seen in later additions. Inp Variety THE 6TH ANNUAL PINK BOOTS HOP BLEND* Aroma: Tropical, herbal, citrus & woody The 6th Annual Pink Boots Blend was chosen we chosen blend is made up of Loral®, HBC 586 &	eding program in Or ad German Hersbruc Brewing Usage Bittering y delivers a clean an elt from Pahto (the r ches throughout the Brewing Usage Aroma * Brand YCR 4 is known being a dual purpor Brewing Usage Dual-Purpose	egon in 1989, M ker. Mt. Hood is Alpha Acid % 17-20 Ind smooth canva native name for Yakima Valley. Alpha Acid % 6.5-9 Down for its high ose hop, howeve Alpha Acid % 12.4	t. Hood is a tri named after the Beta Acid % 5-8 as of bitterness Mt. Adams) and Beta Acid % 6-8 yield and uniq er, more complet Beta Acid % 5.5	total Oil (mL/1 1.5-3 for the boil. the neighbo Total Oil (mL/1 0.8 - 2 ue aroma pro ex characteris Total Oil (mL/1 2.3

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T-90 HOP PELLETS

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
SIMCOE [®] BRAND YCR 14	Dual-Purpose	12-15	3 - 4.5	1.5-3

Aroma: Passion Fruit, Berry, Pine, Earth, Citrus, Bubble Gum

Developed by Yakima Chief Ranches and released in 2000, Simcoe[®] is known for its brewing versatility and unique aroma characteristics. It continues to rise in popularity becoming one of the top ten varieties in the craft and home brewing industries

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
TALUS™ BRAND HBC 692	Dual-Purpose	8.1-9.5	8.3-10.2	2.0-2.7

Aroma: Pink Grapefruit, Sage, Citrus Rinds, Dried Roses, Pine Resin, Tropical Fruit

Talus [™] delivers big aromas of pink grapefruit, citrus rinds, dried roses, pine resin, tropical fruits and sage. These unique and impactful aromas remain throughout the brewing process. With Talus, what you smell in the field is what you'll get in your glass.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
WARRIOR [®] BRAND YCR 5	Bittering	15.5-18	4-5.5	1-2.5

Aroma: Floral, Fruit, Green Grass, Lemon, Resin

Developed by Yakima Chief Ranches, Warrior[®] Brand YCR 5 was selected for its high alpha content, low co-humulone, good storage stability and tolerance to powdery mildew. It is primarily used in brewing for its mild, clean bittering properties.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
WILLAMETTE	Aroma	4.5-6.5	3-4.5	0.6-1.6

Aroma: Floral, Spicy, Berry

Released in 1976 from the USDA breeding program, Willamette is a triploid seedling of English Fuggle. For years, it was the most widely grown aroma variety in the US. It is named after Oregon's Willamette River, which runs through the heart of the state's hop-growing region.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ZYTHOS® BLEND	Aroma	4.5-6.5	3-4.5	0.6-1.6

Aroma: Citrus, Tropical Fruit

Named in honor of the Greek word for beer, Zythos[®] was designed to complement existing IPA and Pale Ale hop varieties. It is an excellent blend for any hop forward beer. Specific aroma descriptors include distinct tropical (pineapple) and citrus tones with slight pine characteristics

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
VISTA	Aroma	8-11	3.5-5.5	0.8-2

Aroma: Citrus, Floral, Herbal, Sweet Aromatic

Vista is the result of a 2006 open pollinated cross by Dr. John Henning between the tetrapolid Perle female and an unknown diploid male. The resulting triploid line, Vista, was recognized early on as a vigorous plant with superior agronomic traits and unique aroma characteristics.

*Each year the Pink Boots Blend is selected from different hop varieties and made into a blend. A portion of the proceeds are donated to the Pink Boots Society to further support and benefit women's education and training in the brewing industry.



CRYO HOPS® PELLETS

Yakima Chief Hops[®] have changed the brewing game with the introduction of Cryo Hops[®] pellets.

Cryo Hops[®] pellets are the concentrated lupulin of whole-leaf hops containing resins and aromatic oils. The beauty of Cryo Hops[®] pellets are that they provide more potency than regular hops and soak up less of your precious beer, helping brewers be more efficient in the brewing process.

Hop Variety

Brewing

Aroma: Grapefruit, Floral, Cedar

AHTANUM® BRAND YCR 1

Bred by Yakima Chief Ranches, Ahtanum[®] Brand YCR 1 is an aroma-type cultivar used for its aromatic properties and moderate bittering. The hop is named after the location where Charles Carpenter established the first hop farm east of the Cascade Mountains in Washington State in 1869.

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Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AMARILLO® BRAND VGXP01	Aroma	14-18	10-12	2-4

Aroma: Grapefruit, Orange, Lemon, Melon, Apricot, Peach

Discovered by Virgil Gamache Farms, Amarillo® is one of the top ten aroma varieties utilised by craft brewers. It features relatively high alpha acids along with extremely high levels of myrcene for citrus and grapefruit flavours.

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g Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ma	8-12	10-13	2-4

CRYO HOPS[®]

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
AZACCA® BRAND ADHA 483	Aroma	18-22	8-10	2-4

Aroma: Mango, Papaya, Orange, Grapefruit, Lemon, Piney, Spicy, Pineapple, Grassy, Tropical Fruit, Citrus

Azacca®, named for the Haitian god of agriculture, is a hop big in citrus and tropical fruit tones. It's excellent aromatic qualities have quickly made Azacca® a go-to hop for late and dry hop additions in varying styles of beer.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	12-16	11-16	2-4

Aroma: Grapefruit, Floral, Pine

Originating from the USDA-ARA breeding program, Cascade is an aroma-type cultivar bred in 1956 and released in 1972. It was developed by open pollination of a Fuggle seedling. Cascade is the most popular variety in craft brewing and is known for having a unique floral, spicy and citrus character, with balanced bittering potential.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASHMERE	Dual-Purpose	14-18	13-15	1-3

Aroma: Melon, Lemon, Lime, Spice

Developed by Washington State University and released in 2013, Cashmere is the result of a marriage of Cascade and Northern Brewer. It contains higher alpha acid content than Cascade and twice as much humulene providing smooth bitterness and a mild citrus fruit aroma.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CENTENNIAL	Dual-Purpose	15-19	6-8	3-5

Aroma: Lemon, Floral, Orange Blossom

Bred in 1974 and released by Washington State University in 1990, Centennial is an aroma-type cultivar that has found favor as one of the most popular varieties in craft brewing. It is often referred to as a super-Cascade (containing nearly double the alpha content), and can be used for bittering purposes. Centennial is a diploid cross between Brewer's Gold and a USDA male.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
СНІМООК	Dual-Purpose	20-24	6-8	3-5

Aroma: Grapefruit, Spicy, Pine

Developed by the USDA breeding program in Washington State and released in 1985 as a high alpha bittering variety, Chinook is a cross between Petham Golding and a USDA male. In recent years, it has found favour as a dualpurpose hop in the craft-brewing community as a result of its spice and pine aroma characteristics.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	22-26	6-8	3-6

Aroma: Grapefruit, Melon, Lime, Gooseberry, Passion Fruit

Developed by Hop Breeding Company and released in 2007, Citra® Brand HBC 394 features high alpha acids and total oil contents-with a low percentage of co-humulone. It is one of the top ten aroma varieties for craft brewers imparting distinct citrus and tropical fruit flavours.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COLUMBUS/CTZ	Bittering	24-28	7-9	3-6

Aroma: Black Pepper, Dank, Red Fruit

Originally selected by Charles Zimmerman for Hopunion Columbus is a descendant of Nugget. It is a high alpha variety and is primarily used for bittering purposes. Columbus is often referred to as CTZ, a trio of similar hops including Tomahawk[®] and Zeus.

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Hop Variety	Brewing Usage	Alpha Acid %	
EKUANOT® BRAND HBC 366	Aroma	21-25	
Aroma: Melon, Berry, Mandarin Orange, Lime, Papay	/a, Green Peppe	rs, Apple, Mango	
Developed by Hop Breeding Company and released characteristics and extremely high oil content. Th	l in 2014, Ekuan is variety burst	ot® Brand HBC 36 s out of the spri	í

Aroma: Meion, Berry, Mandarin Orange, Lime, Papa	iya, Green Peppe	ers, Apple, Mang	0			
Developed by Hop Breeding Company and release characteristics and extremely high oil content. The gradually matures to a deep green colour by Autur	his variety burst	ot® Brand HBC 3 as out of the sp	366 features pi pring soil in vi	onounced aroma brant yellow and		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
IDAHO 7 [®] BRAND J-007	Aroma	21-25	7-9	3-5		
Aroma: Pineapple, Peach, Pine, Resin, Mango, Blac	:k Tea					
Idaho 7° was bred and released by Jackson Farms near Boise, Idaho. Idaho 7° presents as pungent tropical fruit and citrus (think apricot, orange, red grapefruit, papaya) with big notes of resiny pine and hints of black tea.						
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
LORAL [®] BRAND HBC 291	Dual-Purpose	18-23%	-	3.0-4.9		
Aroma: Floral, Pepper, Lemon-Citrus, Dark Fruit						
Developed by Hop Breeding Company and released the fence between old-and-new world hop aromat very versatile hop in the brewery.	in 2016, Loral® B ics. It has the at	rand HBC 291 ha bility to compler	s a noble herita nent all beer s	ige that straddles tyles, making it a		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
MOSAIC [®] BRAND HBC 369	Aroma	22-26	5-8	3-5		
Aroma: Blueberry, Tangerine, Papaya, Rose, Blosso	m, Bubble Gum					
Developed by Hop Breeding Company and release and features a unique and complex aroma profile daughter of Simcoe [®] Brand YCR 14 and a Nugget-de of aromas and flavours it is capable of presenting.	ed in 2012, Mosai that translates erived male. Mos	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ai	gh alpha content eer styles. It is a tistic assortment		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
		00.00	0 11	8 F		

Aroma: Meion, Berry, Mandarin Orange, Lime, Papa	iya, Green Peppe	ers, Apple, Mang	0			
Developed by Hop Breeding Company and release characteristics and extremely high oil content. The gradually matures to a deep green colour by Autur	his variety burst	ot® Brand HBC 3 as out of the sp	366 features pi pring soil in vi	onounced aroma brant yellow and		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
IDAHO 7 [®] BRAND J-007	Aroma	21-25	7-9	3-5		
Aroma: Pineapple, Peach, Pine, Resin, Mango, Blac	:k Tea					
Idaho 7° was bred and released by Jackson Farms near Boise, Idaho. Idaho 7° presents as pungent tropical fruit and citrus (think apricot, orange, red grapefruit, papaya) with big notes of resiny pine and hints of black tea.						
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
LORAL [®] BRAND HBC 291	Dual-Purpose	18-23%	-	3.0-4.9		
Aroma: Floral, Pepper, Lemon-Citrus, Dark Fruit						
Developed by Hop Breeding Company and released the fence between old-and-new world hop aromat very versatile hop in the brewery.	in 2016, Loral® B ics. It has the at	rand HBC 291 ha bility to compler	s a noble herita nent all beer s	ige that straddles tyles, making it a		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
MOSAIC [®] BRAND HBC 369	Aroma	22-26	5-8	3-5		
Aroma: Blueberry, Tangerine, Papaya, Rose, Blosso	m, Bubble Gum					
Developed by Hop Breeding Company and release and features a unique and complex aroma profile daughter of Simcoe [®] Brand YCR 14 and a Nugget-de of aromas and flavours it is capable of presenting.	ed in 2012, Mosai that translates erived male. Mos	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ai	gh alpha content eer styles. It is a tistic assortment		
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)		
		00.00	0 11	8 F		

Aroma: Meion, Berry, Mandarin Orange, Lime,	Papaya, Green Peppe	rs, Apple, Mang	0	
Developed by Hop Breeding Company and re characteristics and extremely high oil conte gradually matures to a deep green colour by A	nt. This variety burst	ot® Brand HBC 3 s out of the sp	366 features pi pring soil in vi	onounced aroma brant yellow and
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
IDAHO 7 [®] BRAND J-007	Aroma	21-25	7-9	3-5
Aroma: Pineapple, Peach, Pine, Resin, Mango	, Black Tea			
Idaho 7® was bred and released by Jackson Fa citrus (think apricot, orange, red grapefruit, p	rms near Boise, Idaho apaya) with big notes	. Idaho 7® prese of resiny pine a	nts as pungent and hints of bla	tropical fruit and ck tea.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
LORAL® BRAND HBC 291	Dual-Purpose	18-23%	-	3.0-4.9
Aroma: Floral, Pepper, Lemon-Citrus, Dark Fr	uit			
Developed by Hop Breeding Company and rele the fence between old-and-new world hop ar very versatile hop in the brewery.	eased in 2016, Loral® B omatics. It has the ab	rand HBC 291 ha illity to compler	s a noble herita nent all beer s	ige that straddles tyles, making it a
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
MOSAIC [®] BRAND HBC 369	Aroma	22-26	5-8	3-5
Aroma: Blueberry, Tangerine, Papaya, Rose, Bl	ossom, Bubble Gum			
Developed by Hop Breeding Company and re and features a unique and complex aroma p daughter of Simcoe [®] Brand YCR 14 and a Nugg of aromas and flavours it is capable of present	rofile that translates et-derived male. Mos	c® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ar	gh alpha content eer styles. It is a tistic assortment
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
	6 1 6	00.00	0 11	0.5

Aroma: Meion, Berry, Mandarin Orange, Lime, Papa	aya, Green Peppe	ers, Apple, Mang	0		
Developed by Hop Breeding Company and release characteristics and extremely high oil content. T gradually matures to a deep green colour by Autur	his variety burst	ot® Brand HBC 3 is out of the sp	366 features pr pring soil in vi	onounced aroma brant yellow and	
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)	
IDAHO 7 [®] BRAND J-007	Aroma	21-25	7-9	3-5	
Aroma: Pineapple, Peach, Pine, Resin, Mango, Blac	ck Tea				
Idaho 7® was bred and released by Jackson Farms near Boise, Idaho. Idaho 7® presents as pungent tropical fruit and citrus (think apricot, orange, red grapefruit, papaya) with big notes of resiny pine and hints of black tea.					
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)	
LORAL [®] BRAND HBC 291	Dual-Purpose	18-23%	-	3.0-4.9	
Aroma: Floral, Pepper, Lemon-Citrus, Dark Fruit					
Developed by Hop Breeding Company and released the fence between old-and-new world hop aroma very versatile hop in the brewery.	l in 2016, Loral® B tics. It has the ab	rand HBC 291 ha oility to compler	s a noble herita nent all beer s	ge that straddles tyles, making it a	
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)	
MOSAIC [®] BRAND HBC 369	Aroma	22-26	5-8	3-5	
Aroma: Blueberry, Tangerine, Papaya, Rose, Blosso	m, Bubble Gum				
Developed by Hop Breeding Company and release and features a unique and complex aroma profile daughter of Simcoe® Brand YCR 14 and a Nugget-d of aromas and flavours it is capable of presenting.	ed in 2012, Mosai that translates erived male. Mos	c® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the ar	gh alpha content eer styles. It is a tistic assortment	
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)	
SABRO™ BRAND HBC 438	Dual-Purpose	22-26	9-11	2-5	

Aroma: Citrus, Stone Fruit, Coconut, Tropical Fruit, Herbal

Sabro™ HBC 438 is the newest release from the Hop Breeding Company. Sabro™ is an aroma hop that is notable for its complexity of fruity and citrus flavours. Sabro's™ pedigree is the result of a unique cross pollination of a female neomexicanus hop. With a robust brewing performance, Sabro™ proves to be a strongly expressive hop that translates its flavour incredibly well into beer.

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
SIMCOE [®] BRAND YCR 14	Dual-Purpose	22-26	6-8	2.5-4.5
Aroma: Passion Fruit. Berry. Pine. Earth. C	titrus. Bubble Gum			

brewing industries.

Hop Variety	Brewing Us
TALUS™ BRAND HBC 692	Dual-Purp

Aroma: Pink Grapefruit, Sage, Citrus Rinds, Dried Roses, Pine Resin, Tropical Fruit

Talus ™ delivers big aromas of pink grapefruit, citrus rinds, dried roses, pine resin, tropical fruits and sage. These unique and impactful aromas remain throughout the brewing process. With Talus, what you smell in the field is what you'll get in your glass.

S

C



Beta Acid %

6-8

Developed by Yakima Chief Ranches and released in 2000, Simcoe[®] is known for its brewing versatility and unique aroma characteristics. It continues to rise in popularity becoming one of the top ten varieties in the craft and home

Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)

rpose

Total Oil (mL/100g)

4-6



riety
ADE
na: Grapefruit, Floral, Pine
nating from the USDA-ARA breeding program 72. It was developed by open pollination of a ing and is known for baying a unique floral, spi

lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	35-42	35-40	4-7
Aroma: Grapefruit, Floral, Pine				
Driginating from the USDA-ARA breeding prog n 1972. It was developed by open pollination prewing and is known for having a unique floral	of a Fugale seedlin	a. Cascade is th	e most popula	ar variety in craft
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CHINOOK	Dual-Purpose	55-62	15-20	6-9
Aroma: Grapefruit, Spicy, Pine				
Developed by the USDA breeding program in /ariety, Chinook is a cross between Petham Gole ourpose hop in the craft-brewing community as	ding and a USDA ma	ale. In recent vea	rs. it has found	favour as a dual-
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
Aroma: Citrus, Floral, Stone Fruit, Tropical				
Developed by Hop Breeding Company and rele otal oil contents-with a low percentage of co- mparting distinct citrus and tropical fruit flavou	humulone. It is one	Brand HBC 39 of the top ten a	4 features high roma varieties	n alpha acids and for craft brewers
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
OLUMBUS/CTZ	Bittering	55-65	15-20	7-10
roma: Black Pepper, Dank, Berry				
Driginally selected by Charles Zimmerman for ariety and is primarily used for bittering purp ncluding Tomahawk® and Zeus.	Hopunion, Columbu ooses. Columbus is o	is is a descenda often referred to	nt of Nugget. as CTZ, a tric	It is a high alpha o of similar hops
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
	Brewing Usage Aroma	Alpha Acid % 55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre	Aroma en Pepper, Mango, (55-61 Drange	14-17%	8-12
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. Th	Aroma een Pepper, Mango, (eased in 2014, Ekuan his variety bursts out	55-61 Drange ot® Brand HBC 3	14-17% 366 features pr	8-12
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The natures to a deep green colour by Autumn har	Aroma een Pepper, Mango, (eased in 2014, Ekuan his variety bursts out	55-61 Drange ot® Brand HBC 3	14-17% 366 features pr	8-12 ronounced aroma low and gradually Total Oil (mL/100g)
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The natures to a deep green colour by Autumn harv op Variety	Aroma een Pepper, Mango, (eased in 2014, Ekuan his variety bursts out vest.	55-61 Drange ot® Brand HBC 3 t of the spring so	14-17% 666 features pr il in vibrant yell	8-12 ronounced aroma low and gradually
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The natures to a deep green colour by Autumn harv op Variety MOSAIC® BRAND HBC 369	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid %	14-17% 666 features pr il in vibrant yell Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g)
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The natures to a deep green colour by Autumn harv lop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele and features a unique and complex aroma pro laughter of Simcoe® Brand YCR 14 and a Nugge	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mosa	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The hatures to a deep green colour by Autumn harv op Variety NOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele nd features a unique and complex aroma pro laughter of Simcoe® Brand YCR 14 and a Nugge f aromas and flavours it is capable of presentin	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mosa	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The hatures to a deep green colour by Autumn harv op Variety IOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele nd features a unique and complex aroma pro aughter of Simcoe® Brand YCR 14 and a Nugge f aromas and flavours it is capable of presentin op Variety	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng.	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. The natures to a deep green colour by Autumn harve lop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele and features a unique and complex aroma pro- laughter of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presentin Hop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng. Brewing Usage	55-61 Drange ot* Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid %	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g)
CKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. The natures to a deep green colour by Autumn harve lop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele Ind features a unique and complex aroma problement of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presention Iop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Pahto™ is a super alpha hop that consistently Pahto™ is every bit as refreshing. Snow me	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and It from Pahto (the n	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canvas	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre veveloped by Hop Breeding Company and rele haracteristics and extremely high oil content. The haracteristics and the store and the store and the story is every bit as refreshing. Snow me cascades provides irrigation for farms and rance	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and It from Pahto (the n	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canvas	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gre eveloped by Hop Breeding Company and rele haracteristics and extremely high oil content. The haracteristics and extremely for any and release haracteristics a unique and complex aroma pro- aughter of Simcoe® Brand YCR 14 and a Nugge f aromas and flavours it is capable of presenting haracteristics and flavours it is capable of	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa offile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and the from Pahto (the not ches throughout the	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley.	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness it. Adams) and	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre peveloped by Hop Breeding Company and rele haracteristics and extremely high oil content. Th hatures to a deep green colour by Autumn harv op Variety IOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical peveloped by Hop Breeding Company and rele nd features a unique and complex aroma pro aughter of Simcoe® Brand YCR 14 and a Nugge f aromas and flavours it is capable of presentir op Variety AHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Pahto™ is a super alpha hop that consistently valto story is every bit as refreshing. Snow me cascades provides irrigation for farms and rance op Variety IMCOE® BRAND YCR 14	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and the from Pahto (the niches throughout the Brewing Usage Dual-Purpose	55-61 Drange ot* Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley. Alpha Acid %	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the au Beta Acid % 14-16 s of bitterness 1t. Adams) and Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g)
CKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. The natures to a deep green colour by Autumn harve lop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele Ind features a unique and complex aroma problement of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presention Hop Variety Parto™ BRAND HBC 682	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and the from Pahto (the n ches throughout the Brewing Usage Dual-Purpose Bubble Gum sed in 2000, Simcoe	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 ® is known for it:	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 5 of bitterness 14.Adams) and Beta Acid % 16-19 5 brewing versa	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring Total Oil (mL/100g) 5-8 atility and unique
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. The natures to a deep green colour by Autumn harve hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele hop features a unique and complex aroma pro- laughter of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presentir hop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Dehto™ is a super alpha hop that consistently Dehto™ is a super alpha hop that consistently Pahto™ story is every bit as refreshing. Snow me Cascades provides irrigation for farms and rance hop Variety SIMCOE® BRAND YCR 14 Aroma: Passion Fruit, Berry, Pine, Earth, Citrus, Developed by Yakima Chief Ranches and release Aroma: Characteristics. It continues to rise in poor	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and the from Pahto (the n ches throughout the Brewing Usage Dual-Purpose Bubble Gum sed in 2000, Simcoe	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 ® is known for it:	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 5 of bitterness 14.Adams) and Beta Acid % 16-19 5 brewing versa	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring Total Oil (mL/100g) 5-8 atility and unique
KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele haracteristics and extremely high oil content. The natures to a deep green colour by Autumn harv lop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele and features a unique and complex aroma pro- laughter of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presentin lop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Developed by a super alpha hop that consistently Deahto™ is a super alpha hop that consistently Deahto story is every bit as refreshing. Snow me Cascades provides irrigation for farms and rance lop Variety SIMCOE® BRAND YCR 14 Aroma: Passion Fruit, Berry, Pine, Earth, Citrus, Developed by Yakima Chief Ranches and releas proving industries.	Aroma Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates ofile that translates ofile that translates ofile that translates ofile that translates bit-derived male. Mos ofile that translates bitering Brewing Usage Bittering delivers a clean and of from Pahto (the n ches throughout the Brewing Usage Dual-Purpose Bubble Gum sed in 2000, Simcoe pularity becoming o	55-61 Drange ot* Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for its ne of the top ter	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 5 of bitterness 14-16 5 of bitterness 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g) 5-8 atility and unique ee craft and home

Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	35-42	35-40	4-7
Aroma: Grapefruit, Floral, Pine				
Originating from the USDA-ARA breeding prog in 1972. It was developed by open pollination o brewing and is known for having a unique floral,	of a Fuggle seedlin	a. Cascade is th	e most popula	ar variety in craft
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
СНІЛООК	Dual-Purpose	55-62	15-20	6-9
Aroma: Grapefruit, Spicy, Pine				
Developed by the USDA breeding program in variety, Chinook is a cross between Petham Gold purpose hop in the craft-brewing community as	Washington State ling and a USDA ma a result of its spice	and released in ale. In recent yea and pine aroma	1985 as a hig rs, it has found a characteristic	h alpha bittering favour as a dual- s.
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
Aroma: Citrus, Floral, Stone Fruit, Tropical				
Developed by Hop Breeding Company and releated oil contents-with a low percentage of co-h imparting distinct citrus and tropical fruit flavou	umulone. It is one	[®] Brand HBC 39 of the top ten a	4 features high roma varieties	alpha acids and for craft brewers
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COLUMBUS/CTZ	Bittering	55-65	15-20	7-10
Aroma: Black Pepper, Dank, Berry				
Originally selected by Charles Zimmerman for H variety and is primarily used for bittering purpo including Tomahawk® and Zeus.	lopunion, Columbu oses. Columbus is o	s is a descenda often referred to	nt of Nugget. as CTZ, a tric	lt is a high alpha o of similar hops
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
	Brewing Usage Aroma	Alpha Acid % 55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
EKUANOT® BRAND HBC 366	Aroma	55-61		
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th	Aroma en Pepper, Mango, (ased in 2014, Ekuan is variety bursts out	55-61 Drange ot® Brand HBC 3	14-17% 366 features pr	8-12
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harve	Aroma en Pepper, Mango, (ased in 2014, Ekuan is variety bursts out	55-61 Drange ot® Brand HBC 3	14-17% 366 features pr	8-12
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harv Hop Variety	Aroma en Pepper, Mango, (ased in 2014, Ekuan is variety bursts out est.	55-61 Drange ot® Brand HBC 3 : of the spring so	14-17% 366 features pr il in vibrant yell	8-12 onounced aroma ow and gradually
Hop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harv Hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical	Aroma en Pepper, Mango, (ased in 2014, Ekuan is variety bursts out est. Brewing Usage	55-61 Drange ot® Brand HBC 3 c of the spring so Alpha Acid %	14-17% 666 features pr il in vibrant yell Beta Acid %	8-12 conounced aroma low and gradually Total Oil (mL/100g)
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harv Hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and relea and features a unique and complex aroma prof daughter of Simcoe® Brand YCR 14 and a Nugget	Aroma Aroma an Pepper, Mango, G ased in 2014, Ekuan is variety bursts out est. Brewing Usage Aroma ased in 2012, Mosa file that translates -derived male. Mos	55-61 Drange ot® Brand HBC 3 c of the spring so Alpha Acid % 58-66 ic® Brand HBC 3	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi	8-12 conounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harv Hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and relea and features a unique and complex aroma prod daughter of Simcoe® Brand YCR 14 and a Nugget of aromas and flavours it is capable of presentin	Aroma Aroma an Pepper, Mango, G ased in 2014, Ekuan is variety bursts out est. Brewing Usage Aroma ased in 2012, Mosa file that translates -derived male. Mos	55-61 Drange ot® Brand HBC 3 c of the spring so Alpha Acid % 58-66 ic® Brand HBC 3	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi	8-12 conounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content
EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gree Developed by Hop Breeding Company and relea characteristics and extremely high oil content. Th matures to a deep green colour by Autumn harv Hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and relea and features a unique and complex aroma prof daughter of Simcoe® Brand YCR 14 and a Nugget of aromas and flavours it is capable of presentin	Aroma Aroma en Pepper, Mango, G ased in 2014, Ekuan is variety bursts out est. Brewing Usage Aroma ased in 2012, Mosa file that translates -derived male. Mos g.	55-61 Drange ot® Brand HBC 3 c of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an	8-12 conounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
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lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	35-42	35-40	4-7
Aroma: Grapefruit, Floral, Pine				
Driginating from the USDA-ARA breeding pro n 1972. It was developed by open pollination prewing and is known for having a unique flor	n of a Fuggle seedlin	a. Cascade is the second se	ne most popula	ar variety in craft
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
СНІЙООК	Dual-Purpose	55-62	15-20	6-9
Aroma: Grapefruit, Spicy, Pine				
Developed by the USDA breeding program i variety, Chinook is a cross between Petham Go purpose hop in the craft-brewing community	in Washington State olding and a USDA ma as a result of its spice	and released in ale. In recent yea and pine aroma	1985 as a hig rs, it has founc a characteristic	h alpha bittering I favour as a dual- :s.
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
Aroma: Citrus, Floral, Stone Fruit, Tropical				
Developed by Hop Breeding Company and re otal oil contents-with a low percentage of co mparting distinct citrus and tropical fruit flave	o-humulone. It is one ours.	of the top ten a	roma varieties	for craft brewers
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COLUMBUS/CTZ	Bittering	55-65	15-20	7-10
Aroma: Black Pepper, Dank, Berry				
Driginally selected by Charles Zimmerman fo	r Hopunion, Columbu rposes. Columbus is o	is is a descenda often referred to	nt of Nugget. o as CTZ, a trie	It is a high alpha o of similar hops
rariety and is primarily used for bittering pur ncluding Tomahawk® and Zeus.				
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ncluding Tomahawk® and Zeus.	Aroma	55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
ncluding Tomahawk® and Zeus. lop Variety KUANOT® BRAND HBC 366	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out	55-61 Drange ot® Brand HBC 3	14-17% 366 features pi	8-12
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ncluding Tomahawk® and Zeus. lop Variety CKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and rel characteristics and extremely high oil content. natures to a deep green colour by Autumn ha	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out rvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates set-derived male. Mos	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9
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Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	35-42	35-40	4-7
Aroma: Grapefruit, Floral, Pine				
Driginating from the USDA-ARA breeding prog n 1972. It was developed by open pollination prewing and is known for having a unique flora	of a Fuggle seedlin	q. Cascade is the second se	ie most popula	ar variety in craft
Hop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CHINOOK	Dual-Purpose	55-62	15-20	6-9
Aroma: Grapefruit, Spicy, Pine				
Developed by the USDA breeding program in variety, Chinook is a cross between Petham Gol ourpose hop in the craft-brewing community a	ding and a USDA ma	ale. In recent vea	rs, it has found	l favour as a dual-
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
Aroma: Citrus, Floral, Stone Fruit, Tropical				
Developed by Hop Breeding Company and rele otal oil contents-with a low percentage of co- mparting distinct citrus and tropical fruit flavo	humulone. It is one	[®] Brand HBC 39 of the top ten a	4 features high roma varieties	n alpha acids and for craft brewers
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
OLUMBUS/CTZ	Bittering	55-65	15-20	7-10
roma: Black Pepper, Dank, Berry				
Driginally selected by Charles Zimmerman for ariety and is primarily used for bittering purp	Hopunion, Columbu	is is a descenda often referred to	nt of Nugget. as CTZ, a tric	It is a high alpha o of similar hops
ncluding Tomahawk® and Zeus.				
ncluding Tomahawk® and Zeus.	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ncluding Tomahawk® and Zeus. Iop Variety KUANOT® BRAND HBC 366	Aroma	55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
ncluding Tomahawk® and Zeus. lop Variety KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. T natures to a deep green colour by Autumn har	Aroma een Pepper, Mango, (eased in 2014, Ekuan his variety bursts out vest.	55-61 Drange ot® Brand HBC 3 t of the spring so	14-17% 366 features pr il in vibrant yell	8-12 ronounced aroma low and gradually
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Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical MoSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele tharacteristics and extremely high oil content. T natures to a deep green colour by Autumn har hop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele and features a unique and complex aroma pro- laughter of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presenting hop Variety	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng.	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
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Aroma: Melon, Berry, Lime, Apple, Tropical, Gre Developed by Hop Breeding Company and rele characteristics and extremely high oil content. T natures to a deep green colour by Autumn har dop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and rele and features a unique and complex aroma pro daughter of Simcoe® Brand YCR 14 and a Nugge of aromas and flavours it is capable of presention Hop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Pahto™ is a super alpha hop that consistently Pahto story is every bit as refreshing. Snow me Cascades provides irrigation for farms and rand Hop Variety SIMCOE® BRAND YCR 14 Aroma: Passion Fruit, Berry, Pine, Earth, Citrus, Developed by Yakima Chief Ranches and releas aroma characteristics. It continues to rise in po	Aroma een Pepper, Mango, G eased in 2014, Ekuan his variety bursts out vest. Brewing Usage Aroma eased in 2012, Mosa ofile that translates et-derived male. Mos ng. Brewing Usage Bittering delivers a clean and lt from Pahto (the n ches throughout the Brewing Usage Dual-Purpose Bubble Gum sed in 2000, Simcoe	55-61 Drange ot® Brand HBC 3 t of the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 ® is known for it:	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 14. Adams) and Beta Acid % 16-19 s brewing versa	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring Total Oil (mL/100g) 5-8 atility and unique

Variety				
	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
SCADE	Aroma	35-42	35-40	4-7
oma: Grapefruit, Floral, Pine				
ginating from the USDA-ARA breeding progra 1972. It was developed by open pollination of wing and is known for having a unique floral,	f a Fuggle seedlin	a. Cascade is th	ne most popula	ar variety in craf
Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
INOOK	Dual-Purpose	55-62	15-20	6-9
oma: Grapefruit, Spicy, Pine				
veloped by the USDA breeding program in V iety, Chinook is a cross between Petham Goldi rpose hop in the craft-brewing community as a	ing and a USDA ma	le. In recent vea	ars. it has found	favour as a dual
Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
RA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
oma: Citrus, Floral, Stone Fruit, Tropical				
veloped by Hop Breeding Company and relea al oil contents-with a low percentage of co-hu parting distinct citrus and tropical fruit flavour	umulone. It is one	[®] Brand HBC 39 of the top ten a	4 features high roma varieties	n alpha acids and for craft brewers
Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
UMBUS/CTZ	Bittering	55-65	15-20	7-10
oma: Black Pepper, Dank, Berry				
ginally selected by Charles Zimmerman for H iety and is primarily used for bittering purpo luding Tomahawk® and Zeus.	opunion, Columbu ses. Columbus is c	s is a descenda often referred to	nt of Nugget. I o as CTZ, a tric	It is a high alpha o of similar hops
Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
JANOT [®] BRAND HBC 366	Aroma	55-61	14-17%	8-12
veloped by Hop Breeding Company and releas aracteristics and extremely high oil content. This	sed in 2014, Ekuan s variety bursts out	ot [®] Brand HBC 3	366 features pr	onounced aroma
tures to a deep green colour by Autumn harve Variety	est.	Alpha Acid %	Beta Acid %	-
tures to a deep green colour by Autumn harve	Brewing Usage		-	
tures to a deep green colour by Autumn harve Variety <mark>SAIC® BRAND HBC 369</mark>	est. Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
tures to a deep green colour by Autumn harve Variety	Aroma Aroma sed in 2012, Mosai de that translates derived male. Mos	Alpha Acid %	Beta Acid %	Total Oil (mL/100g 6-9
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget-	Aroma Aroma sed in 2012, Mosai de that translates derived male. Mos	Alpha Acid %	Beta Acid %	Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting	Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in	Beta Acid % 15-17 669 contains hi a variety of b honor of the ar	Total Oil (mL/100g) 6-9 gh alpha conten eer styles. It is a rtistic assortmen
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety	Aroma Aroma	Alpha Acid % 58-66 c [®] Brand HBC 3 favourably into aic [®] is named in Alpha Acid %	Beta Acid % 15-17 69 contains hi a variety of b honor of the ar Beta Acid %	Total Oil (mL/100g) 6-9 gh alpha conten eer styles. It is a rtistic assortmen Total Oil (mL/100g
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO™ BRAND HBC 682	elivers a clean and from Pahto (the pa	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75	Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness	Total Oil (mL/100g) 6-9 gh alpha contemer eer styles. It is a rtistic assortmen Total Oil (mL/100g) 4-6 for the boil. The
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO™ BRAND HBC 682 oma: Herbal, Earthy, Floral nto™ is a super alpha hop that consistently do to story is every bit as refreshing. Snow melt	elivers a clean and from Pahto (the pa	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75	Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness	Total Oil (mL/100g) 6-9 gh alpha contem eer styles. It is a tistic assortmen Total Oil (mL/100g) 4-6 for the boil. The I the neighboring
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ighter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO [™] BRAND HBC 682 oma: Herbal, Earthy, Floral nto [™] is a super alpha hop that consistently de to story is every bit as refreshing. Snow melt scades provides irrigation for farms and ranch	elivers a clean and from Pahto (the me from Pahto (the me	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva ative name for N Yakima Valley.	Beta Acid % 15-17 369 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 4t. Adams) and	Total Oil (mL/100g) 6-9 gh alpha contem eer styles. It is a tistic assortmen Total Oil (mL/100g) 4-6 for the boil. The I the neighboring
tures to a deep green colour by Autumn harve Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO™ BRAND HBC 682 oma: Herbal, Earthy, Floral nto™ is a super alpha hop that consistently de to story is every bit as refreshing. Snow melt scades provides irrigation for farms and ranch Variety	est. Brewing Usage Aroma Aroma seed in 2012, Mosai ile that translates derived male. Mos derived male.	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 I smooth canva ative name for N Yakima Valley. Alpha Acid %	Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness ft. Adams) and Beta Acid %	Total Oil (mL/100g) 6-9 gh alpha conten- eer styles. It is a rtistic assortmen Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g)
tures to a deep green colour by Autumn harver Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO™ BRAND HBC 682 oma: Herbal, Earthy, Floral nto™ is a super alpha hop that consistently de scades provides irrigation for farms and ranch Variety Ariety Notes BRAND YCR 14	est. Brewing Usage Aroma Aroma seed in 2012, Mosai ile that translates derived male. Mos derived male. Mos Brewing Usage Bittering Bittering Bittering Bittering Bittering Dual-Purpose ubble Gum d in 2000, Simcoe	Alpha Acid % 58-66 ce Brand HBC 3 favourably into aice is named in Alpha Acid % 68-75 d smooth canva ative name for N Yakima Valley. Alpha Acid % 60-65	Beta Acid % 15-17 369 contains hi a variety of b honor of the ar Beta Acid % 14-16 s of bitterness 4t. Adams) and Beta Acid % 16-19 s brewing versa	Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a tistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g) 5-8
tures to a deep green colour by Autumn harver Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi ughter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO™ BRAND HBC 682 oma: Herbal, Earthy, Floral nto™ is a super alpha hop that consistently de to story is every bit as refreshing. Snow melt scades provides irrigation for farms and ranch Variety HCOE® BRAND YCR 14 oma: Passion Fruit, Berry, Pine, Earth, Citrus, B veloped by Yakima Chief Ranches and release- oma characteristics. It continues to rise in popu	est. Brewing Usage Aroma Aroma seed in 2012, Mosai ile that translates derived male. Mos derived male. Mos Brewing Usage Bittering Bittering Bittering Bittering Bittering Dual-Purpose ubble Gum d in 2000, Simcoe	Alpha Acid % 58-66 ce Brand HBC 3 favourably into aice is named in Alpha Acid % 68-75 d smooth canva ative name for N Yakima Valley. Alpha Acid % 60-65	Beta Acid % 15-17 369 contains hi a variety of b honor of the ar Beta Acid % 14-16 s of bitterness 4t. Adams) and Beta Acid % 16-19 s brewing versa	Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a tistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g) 5-8
tures to a deep green colour by Autumn harver Variety SAIC® BRAND HBC 369 oma: Berry, Citrus, Floral, Tropical veloped by Hop Breeding Company and relea d features a unique and complex aroma profi- ighter of Simcoe® Brand YCR 14 and a Nugget- aromas and flavours it is capable of presenting Variety HTO [™] BRAND HBC 682 oma: Herbal, Earthy, Floral nto [™] is a super alpha hop that consistently de to story is every bit as refreshing. Snow melt scades provides irrigation for farms and ranch Variety HCOE® BRAND YCR 14 oma: Passion Fruit, Berry, Pine, Earth, Citrus, B veloped by Yakima Chief Ranches and release oma characteristics. It continues to rise in popularity wing industries.	est. Brewing Usage Aroma Aroma seed in 2012, Mosai le that translates derived male. Mos derived male. Mos Brewing Usage Dual-Purpose ubble Gum d in 2000, Simcoe illarity becoming of	Alpha Acid % 58-66 c* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it he of the top ter	Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness Mt. Adams) and Beta Acid % 16-19 s brewing versa n varieties in th	Total Oil (mL/100g 6-9 gh alpha conten eer styles. It is a rtistic assortmen Total Oil (mL/100g 4-6 for the boil. The I the neighboring Total Oil (mL/100g 5-8 atility and unique

Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Aroma	35-42	35-40	4-7
of a Fuggle seedlin	a. Cascade is th	ne most popula	ar variety in craft
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Dual-Purpose	55-62	15-20	6-9
ing and a USDA ma	ale. In recent yea	irs, it has found	l favour as a dual·
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Aroma	58-66%	14-17%	7-11
ased in 2007, Citra umulone. It is one o rs.	[®] Brand HBC 39 of the top ten a	4 features high roma varieties	n alpha acids and for craft brewers
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Bittering	55-65	15-20	7-10
lopunion, Columbu sses. Columbus is c	is is a descenda often referred to	nt of Nugget. o as CTZ, a tric	It is a high alpha o of similar hops
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Aroma	55-61	14-17%	8-12
est. Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Aroma	58-66	15-17	6-9
ased in 2012, Mosai file that translates -derived male. Mos g.	ic® Brand HBC 3 favourably into aic® is named in	69 contains hi a variety of b honor of the a	gh alpha content eer styles. It is a rtistic assortment
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Bittering	68-75	14-16	4-6
: from Pahto (the na	ative name for N	s of bitterness 1t. Adams) and	for the boil. The the neighboring
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Dual-Purpose	60-65	16-19	5-8
Bubble Gum			
d in 2000, Simcoe ularity becoming of	is known for its ne of the top ter	s brewing versa n varieties in th	atility and unique le craft and home
Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
Brewing Usage Bittering	Alpha Acid % 60-68	Beta Acid % 16-18	Total Oil (mL/100g) 4-7
	•		
	Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Aroma Brewing Usage Dual-Purpose Brewing Usage Aroma Aroma Brewing Usage Bittering Brewing Usage Aroma Aroma Aroma Aroma Aroma Brewing Usage Bittering Brewing Usage Aroma Aroma Aroma Aroma Brewing Usage Aroma Aroma Brewing Usage Aroma Aroma Brewing Usage Bittering Brewing Usage Aroma Brewing Usage Aroma Brewing Usage Brewing Usage Aroma Brewing Usage Brewing Usage Brewing Usage Aroma Aroma Aroma Aroma Aroma Aroma Aroma Brewing Usage Brewing Usage Brewing Usage Brewing Usage Brewing Usage Brewing Usage Aroma Brewing Usage B	Aroma 35-42 Aroma 35-42 ram, Cascade is an aroma-type cull f a Fuggle seedling. Cascade is the spicy and citrus character, with bather Brewing Usage Alpha Acid % Dual-Purpose 55-62 Washington State and released in ing and a USDA male. In recent year a result of its spice and pine aroma Brewing Usage Alpha Acid % Aroma 58-66% Based in 2007, Citra* Brand HBC 39 umulone. It is one of the top ten a rs. Brewing Usage Alpha Acid % Bittering 55-65 Bopunion, Columbus is a descenda bases. Columbus is often referred to a seed in 2014, Ekuanot* Brand HBC 3 Brewing Usage Alpha Acid % Aroma 58-66 Brewing Usage Alpha Acid % Aroma 58-61 n Pepper, Mango, Orange sed in 2014, Ekuanot* Brand HBC 3 Sis variety bursts out of the spring so est. Brewing Usage Brewing Usage Alpha Acid % Aroma 58-66 Bittering 68-75 Brewing Usage Alpha Acid % Brewing Usage Alpha Acid % Bittering 68-75 Bittering 68	Aroma 35-42 35-40 Aroma 35-42 35-40 ram, Cascade is an aroma-type cultivar bred in 11 f a Fuggle seedling. Cascade is the most popula spicy and citrus character, with balanced bitterin Brewing Usage Alpha Acid % Beta Acid % Dual-Purpose 55-62 15-20 Washington State and released in 1985 as a higing and a USDA male. In recent years, it has found a result of its spice and pine aroma characteristic Brewing Usage Alpha Acid % Beta Acid % Aroma 58-66% 14-17% assed in 2007, Citra* Brand HBC 394 features high unulone. It is one of the top ten aroma varieties rs. Brewing Usage Alpha Acid % Beta Acid % Bittering 55-65 15-20 15-20 14-17% browing Usage Alpha Acid % Beta Acid % Beta Acid % Bittering 55-61 14-17% 14-17% n Pepper, Mango, Orange Seed in 2014, Ekuanot* Brand HBC 366 features pris variety bursts out of the spring soil in vibrant yell set. Brewing Usage Alpha Acid % Beta Acid % Aroma 58-66 15-17 14-17% 14-17% 14-17% bit a translates favourably into a variety of bisore

lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CASCADE	Aroma	35-42	35-40	4-7
Aroma: Grapefruit, Floral, Pine				
Driginating from the USDA-ARA breeding pro n 1972. It was developed by open pollination prewing and is known for having a unique flor	n of a Fuggle seedlin	a. Cascade is the second se	ne most popula	ar variety in craft
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
СНІЙООК	Dual-Purpose	55-62	15-20	6-9
Aroma: Grapefruit, Spicy, Pine				
Developed by the USDA breeding program i variety, Chinook is a cross between Petham Go purpose hop in the craft-brewing community	in Washington State olding and a USDA ma as a result of its spice	and released in ale. In recent yea and pine aroma	1985 as a hig ars, it has founc a characteristic	h alpha bittering I favour as a dual- :s.
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
CITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
Aroma: Citrus, Floral, Stone Fruit, Tropical				
Developed by Hop Breeding Company and re otal oil contents-with a low percentage of co mparting distinct citrus and tropical fruit flav	o-humulone. It is one	[®] Brand HBC 39 of the top ten a	4 features higl roma varieties	n alpha acids and for craft brewers
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
COLUMBUS/CTZ	Bittering	55-65	15-20	7-10
Aroma: Black Pepper, Dank, Berry				
Driginally selected by Charles Zimmerman fo	or Hopunion, Columbu rposes. Columbus is o	is is a descenda often referred to	nt of Nugget. o as CTZ, a trie	It is a high alpha o of similar hops
rariety and is primarily used for bittering pur ncluding Tomahawk® and Zeus.				
lop Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ncluding Tomahawk® and Zeus.	Aroma	55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
ncluding Tomahawk® and Zeus. lop Variety KUANOT® BRAND HBC 366	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out	55-61 Drange oot® Brand HBC 3	14-17% 366 features pi	8-12
ncluding Tomahawk® and Zeus. lop Variety KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gu Developed by Hop Breeding Company and re characteristics and extremely high oil content. natures to a deep green colour by Autumn ha	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out arvest.	55-61 Orange ot® Brand HBC 3 t of the spring so	14-17% 366 features pi il in vibrant yel	8-12 ronounced aroma low and gradually
ncluding Tomahawk® and Zeus. lop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and re characteristics and extremely high oil content. natures to a deep green colour by Autumn ha lop Variety MOSAIC® BRAND HBC 369	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage	55-61 Drange oot® Brand HBC 3 t of the spring so Alpha Acid %	14-17% 366 features pi il in vibrant yel Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g)
ncluding Tomahawk® and Zeus. lop Variety CKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and re characteristics and extremely high oil content. natures to a deep green colour by Autumn ha lop Variety	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos	55-61 Drange tof * Brand HBC 3 t of the spring so Alpha Acid % 58-66	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and re characteristics and extremely high oil content. Inatures to a deep green colour by Autumn ha Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and re and features a unique and complex aroma p Jaughter of Simcoe® Brand YCR 14 and a Nugo	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos	55-61 Drange tof * Brand HBC 3 t of the spring so Alpha Acid % 58-66	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and reicharacteristics and extremely high oil content. Inatures to a deep green colour by Autumn ha Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and reich and features a unique and complex aroma p baughter of Simcoe® Brand YCR 14 and a Nuggo of aromas and flavours it is capable of present	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting.	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and re- characteristics and extremely high oil content. Inatures to a deep green colour by Autumn ha Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and re- and features a unique and complex aroma p daughter of Simcoe® Brand YCR 14 and a Nugor of aromas and flavours it is capable of present Hop Variety	Aroma reen Pepper, Mango, C leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage	55-61 Drange tof the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid %	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g)
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and reicharacteristics and extremely high oil content. Inatures to a deep green colour by Autumn have Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and reicheatures a unique and complex aroma p Idaughter of Simcoe® Brand YCR 14 and a Nuggo of aromas and flavours it is capable of present Iop Variety PAHTO™ BRAND HBC 682	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva: ative name for N	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and reicharacteristics and extremely high oil content. Inatures to a deep green colour by Autumn have the active state of the active	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva: ative name for N	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6
Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and re Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and re and features a unique and complex aroma p daughter of Simcoe® Brand YCR 14 and a Nugg of aromas and flavours it is capable of present Hop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Dehto™ is a super alpha hop that consistently Dehto story is every bit as refreshing. Snow m Cascades provides irrigation for farms and rar	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n hches throughout the	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canvar ative name for N Yakima Valley.	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16 s of bitterness 4t. Adams) and	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The d the neighboring
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and re- characteristics and extremely high oil content. Inatures to a deep green colour by Autumn ha Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and re- and features a unique and complex aroma p daughter of Simcoe® Brand YCR 14 and a Nugor of aromas and flavours it is capable of present Hop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Dehto™ is a super alpha hop that consistently Dehto story is every bit as refreshing. Snow m Cascades provides irrigation for farms and rar	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n nches throughout the Brewing Usage Dual-Purpose	55-61 Drange tof the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley. Alpha Acid %	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16 s of bitterness 1t. Adams) and Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The d the neighboring Total Oil (mL/100g)
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and reicharacteristics and extremely high oil content. Inatures to a deep green colour by Autumn have the aracteristics and extremely high oil content. Inatures to a deep green colour by Autumn have Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and reichard features a unique and complex aroma prior and features a super alpha hop that consistently Pahto story is every bit as refreshing. Snow models and the prior bring aroma and rates and prior bring aroma and prior bring aroma and rates and prior bring aroma an	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n hches throughout the Brewing Usage Dual-Purpose s, Bubble Gum ased in 2000. Simcoe	55-61 Drange tof the spring so Alpha Acid % 58-66 ic° Brand HBC 3 favourably into aic° is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it:	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16 s of bitterness Mt. Adams) and Beta Acid % 16-19 s brewing vers	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The d the neighboring Total Oil (mL/100g) 5-8 atility and unique
Including Tomahawk® and Zeus. Iop Variety EKUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr Developed by Hop Breeding Company and reicharacteristics and extremely high oil content. Inatures to a deep green colour by Autumn have Iop Variety MOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical Developed by Hop Breeding Company and reichard features a unique and complex aroma p Idaughter of Simcoe® Brand YCR 14 and a Nugg of aromas and flavours it is capable of present Idop Variety PAHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Dehto ™ is a super alpha hop that consistently Dehto story is every bit as refreshing. Snow m Cascades provides irrigation for farms and rar Idop Variety SIMCOE® BRAND YCR 14 Aroma: Passion Fruit, Berry, Pine, Earth, Citrus Developed by Yakima Chief Ranches and relea aroma characteristics. It continues to rise in po	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa profile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n hches throughout the Brewing Usage Dual-Purpose s, Bubble Gum ased in 2000. Simcoe	55-61 Drange tof the spring so Alpha Acid % 58-66 ic° Brand HBC 3 favourably into aic° is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it:	14-17% 366 features pr il in vibrant yel Beta Acid % 15-17 369 contains hi a variety of b honor of the a Beta Acid % 14-16 s of bitterness Mt. Adams) and Beta Acid % 16-19 s brewing vers	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The d the neighboring Total Oil (mL/100g) 5-8 atility and unique

op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ASCADE	Aroma	35-42	35-40	4-7
roma: Grapefruit, Floral, Pine				
riginating from the USDA-ARA breeding pro 1972. It was developed by open pollination rewing and is known for having a unique flor	n of a Fuggle seedlin	a. Cascade is the second se	ie most popula	ar variety in craft
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
HINOOK	Dual-Purpose	55-62	15-20	6-9
roma: Grapefruit, Spicy, Pine				
eveloped by the USDA breeding program i ariety, Chinook is a cross between Petham Go urpose hop in the craft-brewing community	in Washington State olding and a USDA ma as a result of its spice	and released in ale. In recent yea and pine aroma	1985 as a hig rs, it has found characteristic	h alpha bittering favour as a dual- s.
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
ITRA® BRAND HBC 394	Aroma	58-66%	14-17%	7-11
roma: Citrus, Floral, Stone Fruit, Tropical				
eveloped by Hop Breeding Company and re otal oil contents-with a low percentage of co nparting distinct citrus and tropical fruit flav	o-humulone. It is one	[®] Brand HBC 39 of the top ten a	4 features high roma varieties	n alpha acids and for craft brewers
op Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
OLUMBUS/CTZ	Bittering	55-65	15-20	7-10
roma: Black Pepper, Dank, Berry				
riginally selected by Charles Zimmerman fo ariety and is primarily used for bittering pu icluding Tomahawk® and Zeus.	r Hopunion, Columbu rposes. Columbus is (is is a descenda often referred to	nt of Nugget. as CTZ, a tric	It is a high alpha o of similar hops
np Variety	Brewing Usage	Alpha Acid %	Beta Acid %	Total Oil (mL/100g)
op Variety KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr	Aroma	55-61	Beta Acid % 14-17%	Total Oil (mL/100g) 8-12
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re haracteristics and extremely high oil content.	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out	55-61 Drange pot® Brand HBC 3	14-17%	8-12
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out	55-61 Drange pot® Brand HBC 3	14-17%	8-12
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out prvest.	55-61 Orange ot® Brand HBC 3 t of the spring so	14-17% 366 features pr il in vibrant yell	8-12 ronounced aroma low and gradually
	Aroma reen Pepper, Mango, (leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage	55-61 Drange oot® Brand HBC 3 t of the spring so Alpha Acid %	14-17% 666 features pr il in vibrant yell Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g)
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety IOSAIC® BRAND HBC 369	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos	55-61 Drange tof Brand HBC 3 tof the spring so Alpha Acid % 58-66	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains bi	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re- haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and re nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugo f aromas and flavours it is capable of present	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos	55-61 Drange tof Brand HBC 3 tof the spring so Alpha Acid % 58-66	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains bi	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9
CUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and rel haracteristics and extremely high oil content. atures to a deep green colour by Autumn ha op Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and re nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugg aromas and flavours it is capable of present op Variety	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting.	55-61 Drange tof Brand HBC 3 tof the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in	14-17% 666 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and rel haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety IOSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and re nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugo f aromas and flavours it is capable of present op Variety AHTO™ BRAND HBC 682	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage	55-61 Drange tof the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid %	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr reveloped by Hop Breeding Company and rel haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety IOSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical reveloped by Hop Breeding Company and re nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugo	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva: ative name for N	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The
CUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and re- haracteristics and extremely high oil content. atures to a deep green colour by Autumn ha- p Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and re- nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugge aromas and flavours it is capable of present op Variety AHTO™ BRAND HBC 682 roma: Herbal, Earthy, Floral ahto™ is a super alpha hop that consistently and story is every bit as refreshing. Snow m ascades provides irrigation for farms and rar	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canva: ative name for N	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr avacteristics and extremely high oil content. atures to a deep green colour by Autumn ha p Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and re ad features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugg aromas and flavours it is capable of present p Variety AHTO [™] BRAND HBC 682 roma: Herbal, Earthy, Floral ahto story is every bit as refreshing. Snow m ascades provides irrigation for farms and rar	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n inches throughout the	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canvar ative name for N Yakima Valley.	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 14. Adams) and	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Greveloped by Hop Breeding Company and relatareteristics and extremely high oil content. Just a deep green colour by Autumn hat op Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and renderatures a unique and complex aroma provement of Simcoe® Brand YCR 14 and a Nugger of Simcoe® Brand YCR 14	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and elet from Pahto (the n hches throughout the Brewing Usage Dual-Purpose	55-61 Drange tof the spring so Alpha Acid % 58-66 ic® Brand HBC 3 favourably into aic® is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley. Alpha Acid %	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 1t. Adams) and Beta Acid %	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g)
KUANOT® BRAND HBC 366 KUANOT® BRAND HBC 366 Aroma: Melon, Berry, Lime, Apple, Tropical, Gr reveloped by Hop Breeding Company and rel haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety IOSAIC® BRAND HBC 369 Aroma: Berry, Citrus, Floral, Tropical reveloped by Hop Breeding Company and re- nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugg f aromas and flavours it is capable of present op Variety AHTO™ BRAND HBC 682 Aroma: Herbal, Earthy, Floral Pahto™ is a super alpha hop that consistently ahto story is every bit as refreshing. Snow m	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n hches throughout the Brewing Usage Dual-Purpose s, Bubble Gum ased in 2000, Simcoe	55-61 Drange tof the spring so Alpha Acid % 58-66 ic° Brand HBC 3 favourably into aic° is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it:	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 14. Adams) and Beta Acid % 16-19 s brewing versa	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring Total Oil (mL/100g) 5-8 atility and unique
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Greveloped by Hop Breeding Company and relearacteristics and extremely high oil content. Juatures to a deep green colour by Autumn has op Variety OSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical eveloped by Hop Breeding Company and releaders a unique and complex aroma paughter of Simcoe® Brand YCR 14 and a Nugger f aromas and flavours it is capable of present op Variety AHTO™ BRAND HBC 682 aroma: Herbal, Earthy, Floral ahto™ is a super alpha hop that consistently ahto story is every bit as refreshing. Snow mascades provides irrigation for farms and rar op Variety IMCOE® BRAND YCR 14 aroma: Passion Fruit, Berry, Pine, Earth, Citrus eveloped by Yakima Chief Ranches and releaders and characteristics. It continues to rise in parent pare	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and helt from Pahto (the n hches throughout the Brewing Usage Dual-Purpose s, Bubble Gum ased in 2000, Simcoe	55-61 Drange tof the spring so Alpha Acid % 58-66 ic° Brand HBC 3 favourably into aic° is named in Alpha Acid % 68-75 d smooth canva: ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it:	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 s of bitterness 14. Adams) and Beta Acid % 16-19 s brewing versa	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The the neighboring Total Oil (mL/100g) 5-8 atility and unique
KUANOT® BRAND HBC 366 roma: Melon, Berry, Lime, Apple, Tropical, Gr eveloped by Hop Breeding Company and rel haracteristics and extremely high oil content. hatures to a deep green colour by Autumn ha op Variety IOSAIC® BRAND HBC 369 roma: Berry, Citrus, Floral, Tropical reveloped by Hop Breeding Company and re- nd features a unique and complex aroma p aughter of Simcoe® Brand YCR 14 and a Nugo f aromas and flavours it is capable of present op Variety AHTO™ BRAND HBC 682 rroma: Herbal, Earthy, Floral rahto ™ is a super alpha hop that consistently ahto story is every bit as refreshing. Snow m ascades provides irrigation for farms and rar op Variety IMCOE® BRAND YCR 14 aroma: Passion Fruit, Berry, Pine, Earth, Citrus Peveloped by Yakima Chief Ranches and relea roma characteristics. It continues to rise in po	Aroma reen Pepper, Mango, G leased in 2014, Ekuan This variety bursts out arvest. Brewing Usage Aroma eleased in 2012, Mosa rofile that translates get-derived male. Mos ting. Brewing Usage Bittering y delivers a clean and elt from Pahto (the n hches throughout the Brewing Usage Dual-Purpose s, Bubble Gum ased in 2000, Simcoe opularity becoming o	55-61 Drange tof the spring so Alpha Acid % 58-66 ic* Brand HBC 3 favourably into aic* is named in Alpha Acid % 68-75 d smooth canvas ative name for N Yakima Valley. Alpha Acid % 60-65 * is known for it: ne of the top ter	14-17% 366 features pr il in vibrant yell Beta Acid % 15-17 69 contains hi a variety of b honor of the an Beta Acid % 14-16 5 of bitterness 14-16 5 of bitterness 14-17 Beta Acid % 14-16 5 of bitterness 14-19 5 brewing versa 16-19	8-12 ronounced aroma low and gradually Total Oil (mL/100g) 6-9 gh alpha content eer styles. It is a rtistic assortment Total Oil (mL/100g) 4-6 for the boil. The I the neighboring Total Oil (mL/100g) 5-8 atility and unique ee craft and home

Developed by Yakima Chief Ranches, Warrior® Brand YCR 5 was selected for its high alpha content, low co-humulone, good storage stability and tolerance to powdery mildew. It is primarily used in brewing for its mild, clean bittering properties.

EXTRACT Yakima Chief Hops[®] CO2 Hop Extract is produced using a supercritical CO2 process which extracts the soft resins and essential oils contained in hops.

CO, HOP

Their single varietal extract improves shelf life, yield and versatility, giving beers and extra boost of hop flavours. It is primarily used as a kettle ingredient to provide bitterness. Variety specific flavour/aroma con-

tributions can be expected when used for late kettle or whirlpool additions.

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SdOH





They deliver proven industry relevant solutions and targeted innovation. AB Biotek specialise in fermentation science and innovation, producing high-calibre yeasts for brewers from all walks of life!



Item Description	Package Size	Attenuation	Flocculation	Optimum Ferment Temp.	Alcohol Tolerance
Ale 514	500g /10kg	Med-Low	Med-Low	20-22°C	9.0% abv.
Draught	500g /10kg	High	Heavy	13-22°C	9.0% abv.
Weiss	500g /10kg	Medium	Low	18-25°C	7.5% abv.
Lager 497	500g / 10 kg	Med-High	Low-Med	12-20°C	8.0% abv.
Brew Boost	500g	-	-	-	-
NMB Nutrient	500g	-	-	-	-

Item Description	Package Size	Attenuation	Flocculation	Optimum Ferment Temp.	Alcohol Tolerance
Heritage American Ale	500g /10kg	76-82%	High	16-21ºC	9.0%
Heritage English Ale	500g /10kg	72-78%	High	18-22ºC	9.0% abv.
Heritage Pilsner	500g /10kg	74-81%	High	8-14ºC	7.5% abv.
					F1

AB Biotek is a producer of yeast and provider of associated technologies and integrated fermentation solutions to the global alcohol beverages market.



APINNACLE

AB Biotek's range of Distilling Yeast, Pinnacle, is perfect for those dabbling in the distilling game.

A combination of superior technical services and expertise has resulted in their yeast being an established ingredient in some of the world's finest malt and grain whiskies



Since 1995, White Labs has been devoted to providing customers with the best in yeast, nutrients, enzymes, education and analytical testing. They are committed to giving customers the highest quality liquid yeast cultures and being your partner in creating the best products possible.

The strains listed below are some of the Core Strains Vault Strains that White Labs offers. If you are interested in their whole portfolio, please contact your Sales Manager.



BIOTEK

AB

CORE STRAINS

Item Description	Attenuation	Flocculation	Optimum Ferment Temp	Alcohol Tolerance	Item Description
WLP001 California Ale Yeast®	73-80%	Medium	20-23°C	High	WLP570 Belgian
WLP002 English Ale Yeast	63-70%	Very High	18-20°C	Medium	WLP575 Belgian
WLP004 Irish Ale Yeast	69-74%	Medium-High	18-20°C	Medium-High	WLP590 French
WLP005 British Ale Yeast	67-74%	High	18-21°C	Medium	WLP630 Berliner
WLP007 Dry English Ale Yeast	70-80%	Medium-High	18-21°C	Medium-High	WLP644 Sacchai
WLP008 East Coast Ale Yeast	70-75%	Low-Medium	20-23°C	Medium	WLP645 Brettan
WLP009 Australian Ale Yeast	70-75%	High	18-21°C	Medium	WLP648 Brettan
WLP013 London Ale Yeast	67-75%	Medium	19-22°C	Medium	WLP650 Brettan
WLP023 Burton Ale Yeast	69-75%	Medium	20-23°C	Medium	WLP653 Brettan
WLP028 Edinburgh Scottish Ale Yeast	70-75%	Medium	18-21°C	Medium-High	WLP655 Belgian
WLP029 German Ale/Kölsch Ale Yeast	72-78%	Medium	18-21°C	Medium	WLP661 Pedioco
WLP036 Düsseldorf Alt Ale Yeast	65-72%	Medium	18-21°C	Medium	WLP670 America
WLP041 Pacific Ale Yeast	65-70%	High	18-20°C	Medium	WLP672 Lactoba
WLP051 California V Ale Yeast	70-75%	Medium-High	19-21°C	Medium-High	WLP677 Lactoba
WLP060 American Ale Yeast Blend	72-80%	Medium	20-22°C	Medium-High	WLP800 Pilsner
WLP066 London Fog Ale Yeast	75-82%	Low-Medium	17-21°C	Medium- High	WLP802 Czech E
WLP067 Coastal Haze Ale Yeast Blend (STA1+)*	70-75%	Low-Medium	20-22°C	Medium-High	WLP810 San Fra
WLP080 Cream Ale Yeast Blend	75-80%	Medium	18-21°C	Medium-High	WLP820 Oktober
WLP090 San Diego Super Yeast	76-83+%	Medium-High	18-20°C	High	WLP830 Germar
WLP095 Burlington Ale Yeast	73-78%	Medium	19-22°C	Medium-High	WLP833 Germar
WLP099 Super High Gravity Ale Yeast (STA1+)*	>80%	Medium	18-20°C	Very High	WLP838 Souther
WLP300 Hefeweizen Ale Yeast	72-76%	Low	20-22°C	Medium	WLP840 America
WLP320 American Hefeweizen Ale Yeast	70-75%	Low	18-21°C	Medium	WLP850 Copenh
WLP351 Bavarian Weizen Yeast (STA1+)*	73-77%	Low	19-21°C	Medium	WLP1983 Charlie
WLP380 Hefeweizen IV Ale Yeast	73-80%	Low	19-21°C	Medium	WLP1983 Charli
WLP400 Belgian Wit Ale Yeast	74-78%	Low-Medium	19-23°C	Medium	WLP920 Old Bav
WLP410 Belgian Wit II Ale Yeast	70-75%	Low-Medium	19-23°C	Medium	WLP925 High Pr
WLP500 Monastery Ale Yeast	75-80%	Low-Medium	18-22°C	High	
WLP510 Bastogne Belgian Ale Yeast	74-80%	Medium	19-22°C	High	
WLP518 Opshaug Kveik Ale Yeast	70-80%	High	25-35°C	Medium-High	Package
WLP530 Abbey Ale Yeast	75-80%	Medium-High	19-22°C	High	(1) 1 oz. v
WLP540 Abbey IV Ale Yeast	74-82%	Medium	19-22°C	High	(20) 1 oz.
WLP545 Belgian Strong Ale Yeast (STA1+)*	78-85%	Medium	19-22°C	High	(1) 10-gra
WLP550 Belgian Ale Yeast	78-85%	Medium	20-26°C	Medium-High	(20) 10-g
WLP565 Belgian Saison I Ale Yeast (STA1+)*	65-75%	Medium	20-30°C	Medium	(1) 500-g
WLP566 Belgian Saison II Ale Yeast (STA1+)*	78-85%	Medium	20-30°C	Medium	(1) 000 8
WLP568 Belgian Style Saison Ale Yeast Blend (STA1+)*	70-80%	Medium	21-30°C	Medium	

Item Description	Attenuation	Flocculation	Optimum Ferment Temp	Alcohol Tolerance
WLP570 Belgian Golden Ale Yeast (STA1+)*	73-78%	Low	20-24°C	High
WLP575 Belgian Style Ale Yeast Blend	74-80%	Medium	20-24°C	Medium-High
WLP590 French Saison Ale Yeast (STA1+)*	73-80%	Medium	21-30°C	Medium
WLP630 Berliner Weisse Blend	73-80%	Medium	20-22°C	Medium
WLP644 Saccharomyces "bruxellensis" Trois (STA1+)*	85+%	Low	21-30°C	Medium-High
WLP645 Brettanomyces claussenii	70-85%	Low	30°C+	Medium-High
WLP648 Brettanomyces bruxellensis Trois Vrai	85%+	Low	21-30°C	Medium-High
WLP650 Brettanomyces bruxellensis	70-85+%	Low	30°C+	Medium-High
WLP653 Brettanomyces lambicus	70-85%	Low	30°C+	Medium-High
WLP655 Belgian Sour Mix I	70-80%	Low-Medium	27-29°C	Medium-High
WLP661 Pediococcus damnosus	N/A	N/A	Varies	Varies
WLP670 American Farmhouse Yeast Blend (STA1+)*	75-82%	Medium	20-22°C	Medium
WLP672 Lactobacillus brevis	N/A	N/A	Varies	Varies
WLP677 Lactobacillus delbruecki	N/A	N/A	Varies	Varies
WLP800 Pilsner Lager Yeast	72-77%	Medium-High	10-13°C	Medium
WLP802 Czech Budějovice Lager Yeast	75-80%	Medium	10-13°C	Medium
WLP810 San Francisco Lager Yeast	65-70%	High	14-18°C	Medium-High
WLP820 Oktoberfest/Märzen Lager Yeast	65-73%	Medium	11-14°C	Medium-High
WLP830 German Lager Yeast	74-79%	Medium	10-13°C	Medium
WLP833 German Bock Lager Yeast	70-76%	Medium	9-13°C	Medium-High
WLP838 Southern German Lager Yeast	68-76%	Medium-High	10-13°C	Medium
WLP840 American Lager Yeast	75-80%	Medium	10-13°C	Medium
WLP850 Copenhagen Lager Yeast	72-78%	Medium	10-14°C	Medium
WLP1983 Charlie's Fist Bump Yeast**	66-70%	Low	20-23°C	Medium-High
WLP1983 Charlie's Fist Bump Yeast**	66-70%	Low	13-14°C	Medium
WLP920 Old Bavarian Lager Yeast	66-73%	Medium	10-13°C	Medium-High
WLP925 High Pressure Lager Yeast	73-82%	Medium	17-20°C	Medium

kage Size	Item Informa
oz. vials	White Labs Ye
1 oz. vials	White Labs Ye
0-gram packs	Servomyces
10-gram packs	Servomyces
00-gram packs	Servomyces



YEAST

ation

Yeast Nutrient that includes amino acids. Yeast Nutrient that includes amino acids.

WHITE LABS

VAULT STRAINS

Item Description	Attenuation	Flocculation	Optimum Ferment Temp	Alcohol Tolerance
WLP003 German II Ale Yeast	73 - 80%	Medium	18-21°C	Medium
WLP006 Bedford British Ale Yeast	72 - 80%	High	18-21°C	Medium
WLP009 Australian Ale Yeast	70 - 75%	High	18-21°C	Medium
WLP011 European Ale Yeast	65 - 70%	Medium	18-21°C	Medium
WLP017 Whitbread II Ale Yeast	67-73%	High	19-21°C	Medium
WLP019 California IV Ale Yeast	N/A	N/A	N/A	N/A
WLP022 Essex Ale Yeast	71-76%	Med-High	19-21°C	Medium
WLP025 Southwold Ale Yeast	68-75%	Medium	19 -20°C	Medium
WLP026 Premium Bitter Ale Yeast	70-75%	Medium	19-21°C	Medium
WLP030 Thames Valley Ale Yeast	72-75%	High	N/A	High
WLP033 Klassic Ale Yeast	66-74%	Medium	19-21°C	Medium
WLP037 Yorkshire Square Ale Yeast	68-72%	High	18-21°C	Med-High
WLP038 Manchester Ale Yeast	70-74%	Med-High	18-21°C	Med-High
WLP039 East Midlands Ale Yeast	73-82%	Med-High	19-21°C	Medium
WLP045 Scotch Whisky Yeast	75-80%	Medium	22-25°C	High
WLP050 Tennessee Whiskey Yeast	75-80%	Medium	24-26°C	High
WLP059 Melbourne Ale Yeast	74-78%	Medium	23-23°C	Medium
WLP064 Buchner Ale Yeast Blend	72-78%	Medium	19-22°C	Med-High
WLP065 American Whiskey Yeast	76-82%	Medium	24-28°C	High
WLP070 Kentucky Bourbon Yeast	75-80%	Medium	22-25°C	High
WLP072 French Ale Yeast	68-75%	Med-High	17-23°C	Medium
WLP073 Artisanal Country Ale Yeast	75-80%	Low-Med	21-27°C	Med-High
WLP075 Hansen Ale Yeast Blend	75-80%	Med-High	19-21°C	High
WLP076 Old Sonoma Ale Yeast	70-74%	Medium	19-21°C	Medium
WLP078 Neutral Grain Yeast	77-84%	Medium	24-29°C	High
WLP085 English Ale Yeast Blend	67-76%	Med-High	20-22°C	Medium
WLP515 Antwerp Ale Yeast	73-80%	Medium	73-80°C	Medium
WLP519 Stranda Kveik Ale Yeast	75-85%	Med-High	22-37°C	Med-High
WLP546 Marañón Canyon Wild Cacao	65-70%	Low	18-24°C	Medium
WLP561 Non STA1son Ale Yeast	78-85%	Low	20-26°C	Low
WLP564 Leeuwenhoek Saison Yeast Blend	76-82%	Low	18-24°C	High
WLP585 Belgian Saison III Ale Yeast	78-85%	Med-High	20-30°C	Medium
WLP603 Torulaspora delbrueckii	20-30%	Low-Med	19-23°C	N/A
WLP611 New Nordic Ale Yeast	65-75%	Low-Med	10-30°C	Medium
WLP618 Saccharomycodes Iudwigii	20%	Medium	20-24°C	Low
WLP631 Appalachian Tart	75-85%	Medium	27-37°C	Medium
WLP640 Brettanomyces anomalus	70-85%	Low	21-30°C	Low

Item Description	Attenuation	Flocculation	Optimum Ferment Temp	Alcohol Tolerance
WLP665 Flemish Ale Blend	80-85%	Low-Med	20-27°C	Med-High
WLP815 Belgian Lager Yeast	72-78%	Medium	10-13°C	Medium
WLP835 German X Lager Yeast	70-76%	Medium	10-12°C	Medium
WLP845 Fast Lager Yeast	75-78%	N/A	N/A	N/A
WLP860 Munich Helles Lager Yeast	68-72%	Medium	9-11°C	Medium
WLP885 Zurich Lager Yeast	70-80%	Medium	10-13°C	Medium

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YEAST



TECHNOLOGIES

FR

Back in 2018 Simon Cooke & Ryan Carville took a leap of faith, to grow fresh liquid yeast cultures right here in Aotearoa NZ. And with that... Froth Technologies was born.

We pride ourselves on raising high quality, fresh, liquid yeast.

Froth Technologies is an impact business that is driven to do business in a way that makes the world a better place by ensuring our business activities achieve success across our three pillars: Earthlings, Environment, and Enterprise.

We're passionate about all things fermentation. Our highly skilled team of cellular farmers are lovingly raising quality liquid yeast cultures in our custom-built yeast lab.



BUDDY | FT01 (AMERICAN ALE)

Often playing a supporting role in IPA's and hop-forward styles, Buddy takes a back seat with its clean fermentation profile and lets it's mates bask in the limelight. With applications across a range of styles from Pale Ale's and IPA's, to American Style Stouts and Barleywines, this versatile and reliable strain is a go-to across the board. Brew with your Buddy; a brewer's best friend.

Attenuation: 72-80% | Flocculation: Medium | Alcohol Tolerance: 11% | Temp: 19-22°C Assumed Origin: Sierra Nevada

(HAZY / ENGLISH ALE)

Clouds no longer belong solely to the sky. The trendy kid on the block, Vape is our answer to sick-as-hazies. Contributing a restrained but present ester profile and a silky mouthfeel, Vape clouds-out most when partnered with a high dose of hops and proteins to render the juiciest of NEIPA's.

Attenuation: 71-75% | Flocculation: Medium | Alcohol Tolerance: 10% | Temp: 19-23°C **Assumed Origin**: Boddington's

SPECTRA FT03 (HAZY / ENGLISH ALE)

Explore the more delicate of textures and indulge in a spectrum of radiant flavour & aroma. Spectra boasts a more robust attenuation capacity than many of its counterparts, while exhibiting an elegant ester profile and velvety mouthfeel. This prolific strain dances with hops & protein to offer a mesmerising glow in New England IPA's, while its Old English origins make it a wise choice for amber & dark ales.

Attenuation: 75-82% | Flocculation: Low-Med |Alcohol Tolerance: 10% | Temp: 17-21°C





RUDEBOY FT21 (HAZY / ENGLISH ALE)

Named by Dale Gould as a salute to the UK Ska music scene, Rudeboy is an English go-getter with versatility across a range of beer styles. This boy is highly flocculant and rather clean, with a neutral profile that nudges mild malt and soft fruit aromatics to the forefront. Rudeboy is a real all-rounder in the brewery: in juicy Hazies, bright Pale Ales, Low-Alcs, Darks, Milds & Bitters.

> Attenuation: 68-72% | Flocculation: High | Alcohol Tolerance: 9% | Temp: 18-22°C Assumed origin: Young's Brewery

UNICORN FT30 (WITBIER - SEASONAL)

Majestic, sparkly, and a little bit spicy; Unicorn is our answer for Belgian Wits, Blondes, and new age White IPA's. This unicorn's horn is made of phenols, shooting a rainbow of clove, spice, and bubblegum out its fluffy white head. High attenuation results in a dry beer with a perception of tartness. Take the rainbow reins and harness the magic that is the Unicorn.

Attenuation: 72-78% | Flocculation: Low-Med |Alcohol Tolerance: 10% | Temp: 18-24°C Assumed origin: Hoegaarden

KRISP | FT50 (GERMAN LAGER)

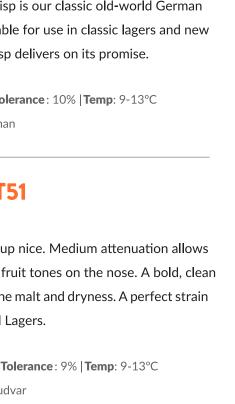
The strain that says it all without really saying anything, Krisp is our classic old-world German lager strain. Offering a clean & steady fermentation, applicable for use in classic lagers and new age Pilsners, and happy as in a Cold IPA alike. Krisp delivers on its promise.

Attenuation: 73-79% | Flocculation: Medium | Alcohol Tolerance: 10% | Temp: 9-13°C Assumed origin: Weihenstephan

VAGABOND FT51 (CZECH PILS)

This Vagabond may be a bottom dweller, but it sure cleans up nice. Medium attenuation allows for residual sweetness which can elevate nuanced malt and fruit tones on the nose. A bold, clean finish allows hops to shine through, artfully poised between the malt and dryness. A perfect strain for NZ & Bohemian Pilsners and Lagers.

Attenuation: 71-75% | Flocculation: Med-High | Alcohol Tolerance: 9% | Temp: 9-13°C Assumed origin: Budêjovický Budvar



MALT

FRUIT PUREES



Family owned since 1935, Oregon Fruit Purees demand the highest quality fruit to create ready-to-use aseptic purees that contribute the fullest impact of fruit flavour to your brewing process. Their purees are sterile, shelf stable and non-GMO.

With decades of extensive knowledge in the craft beverage industry, producing the perfect puree is their way of life. At Oregon Fruit Purees, they love to collaborate to help you make better fruit beer.





FRUIT P





Apricot Aseptic Puree



Blackberry Aseptic Puree Pacific Northwest.



The flavour is stronger and the aroma is more intense than a normal orange but shares the same wonderful citrus notes. Blood orange has a distinct, sweet flavour with a hint of raspberry.



Blueberry Aseptic Puree in Oregon.

Tart Cherry Aseptic Puree Dark Sweet Cherry Aseptic Puree

Lambert cherries are a dark red, heart-shaped fruit that is similar in size to the Bing. A rich, sweet flavour has kept this variety popular.



Grapefruit Aseptic Puree



Cranberry Aseptic Puree tart, bitter and sour.

V	R	Ε	Ε	S
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19.1kg

SIZE

Patterson variety, grown in California, known for full flavour and aroma.

19.1kg

Evergreen blackberries, the most common variety grown in the

Blood Orange Aseptic Puree

19.1kg

19.1kg

Elliott variety blueberry, a high-bush berry, sweet with a hint of tartness, grown

19.1kg

19.1kg

19.1kg

The grapefruit is a yellow-orange in colour, has a beautiful citrus note and a gentle sweetness, with a tartness. The grapefruit pulp adds texture and marries both the sweet and tart flavours into perfect balance.

19.1kg

Cranberries are bright red in colour and their taste can be described as astringent,

OREGON FRUIT

FRUIT PUREES

	ITEM DESCRIPTION
	Key Lime Asceptic Puree - Seasonal
)	Key Lime Puree is pale green in hue an

19.1kg

SIZE

hue and smooth in consistency, with soft undertones and an intensely bright and tangy flavour.



19.1kg Passionfruit Aseptic Puree The passionfruit is a sweet, exotic fruit with a delicious, slightly tart flavour.



Plum Aseptic Puree 19.1kg Prepared from ripened, washed, pitted and sorted plums. Plums are harvested in September.



Pineapple Aseptic Puree 19.1kg Pineapples have a vibrant tropical flavour that balances the tastes of sweet and tart.



Mango Aseptic Puree 19.1kg Mangoes are sweet in flavour, with a slightly a tart, lemon-like taste.



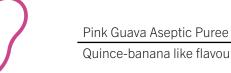
Strawberry Aseptic Puree

19.1kg

A mix of varieties selected for their superior flavour and sweet-tart balance. Oregon strawberries are smaller but more flavourful than those grown elsewhere.



Aseptic Soursop/Tangerine Puree is a mixture of soursop puree with tangerine jui concentrate imparts tropical flavours.





Raspberry Aseptic Puree

raspberry flavour

DREGON FRUIT



ITEM DESCRIPTION

19.1kg

SIZE

19.1kg

Quince-banana like flavour with a sweet and tart taste, typical of ripe guava

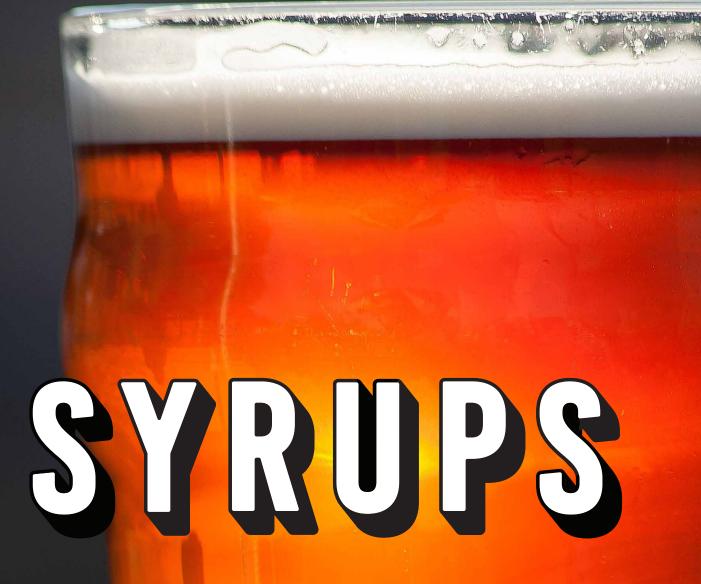
19.1kg

An Oregon-grown gem, these are bright-red, medium-sized berries with the familiar

DREGON FRUIT

65

RUIT PUREES







Made from authentic Belgium caramelised beet sugars, they are extremely beneficial for improving the gravity of your wort, increasing alcohol and dryness without adding to the sweetness of the beer.

Whilst in the past they have been chiefly used in authentic Belgian beers, Dark Candi syrups are becoming increasingly popular for a multitude of beer styles.

CANDI SYRUPS



Product Name

Package Size

Dark Belgian Candi Syrup 20L Cannister Original caramelised sugar of traditional Belgian ales. This syrup is deep red/black in colour. Its flavour is full of soft caramel, vanilla, plums and raisins.

SRM: 30 or 59 °EBC — Usage: 1.032 PPG — Extract: 78-80%



Product Name	Package Size
Dark 2 Belgian Candi Syrup	20L Cannister
This syrup's flavour is a mix of burnt dark chocolate. Highly fermentable.	sugar, figs, ripe fruit, toffee and

SRM: 80 or 157 °EBC — Usage: 1.032 PPG — Extract: 78-80%



	Product Name	Package Size
	Amber Belgian Candi Syrup	20L Cannister
Made using the same process as the Dark Syrup. Lighter in colour a less intense Candi Syrup flavour.		Dark Syrup. Lighter in colour with
SRM: 40 — Usage: 1.032 PPG — Extract: 78-80%		tract: 78-80%



Product Name	Package Size
Clear Belgian Candi Syrup	20L Cannister
Traditional, light-coloured Candi Sy higher fermentability and to invert su	
SRM: 0 — Usage: 1.032 PPG — Extr	act: 78-80%

Natural Malt Extract



ASPERA BRAUEREI RIESE GMBH

Aspera's Roasted Malt Extract is a dark malt liquid which is a great addition to enhance the colour and flavour when brewing darker beer types. It's a 'Natural' Malt Extract which is crafted with malt from English maltsters and our supply partners Thomas Fawcett.

Look: Blackish-Brown

Taste & Smell: Roasted aromatic

Colour EBC°: 9.500

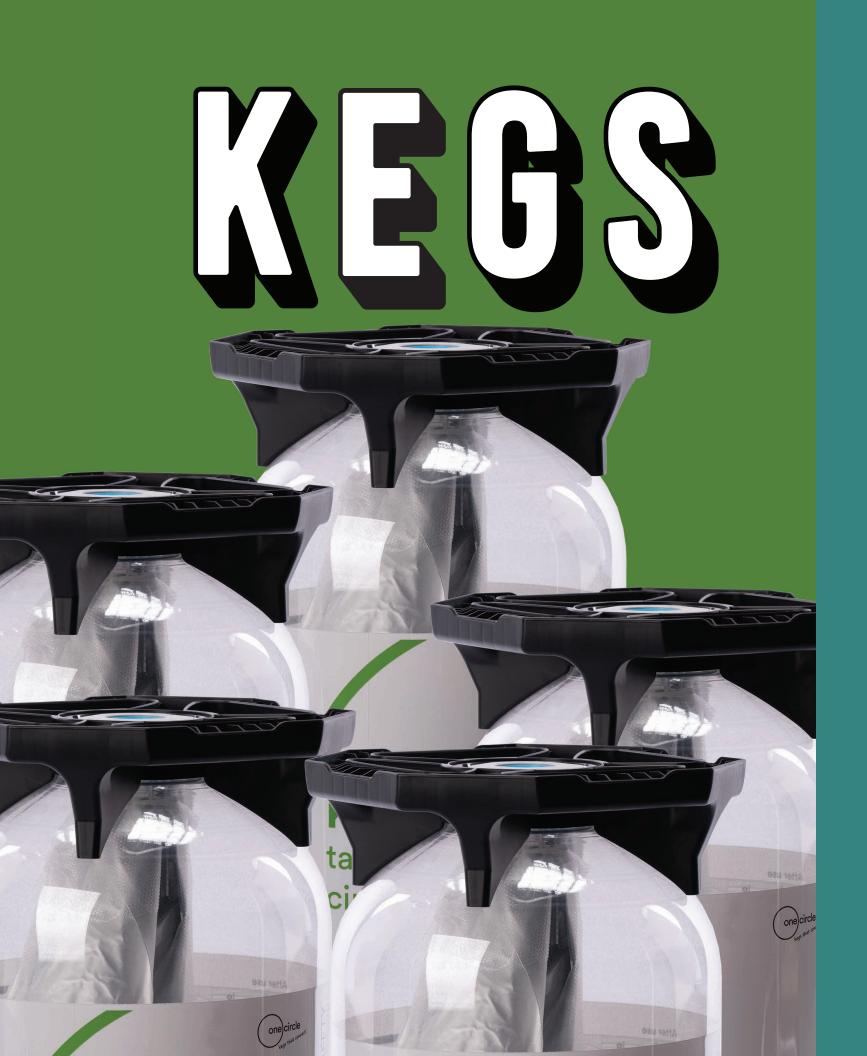
Extract in % vol: Approx. 45 %

PH: 3.5 - 4.5

Sizing: 10L & 20L Cannisters

DARK CANDI

Ingredients: Water, Roasted Thomas Fawcett Malt, Yeast, Hops



LIGHTWEIGHT • SUSTAINABLE • SAFE • EASY With Bag-in-Keg[™] and Double Wall[™] Technology.



Meet The KeyKeg Range!

With KeyKeg we offer a complete range of beverage Kegs.

KeyKeg products feature an advanced design and are easy to use, sustainable and circular.

KeyKeg presents great opportunities to break into and serve new markets. Lightweight and sustainable, KeyKeg provide the best possible protection for your beverages, which can be dispensed using any gas, even compressed air.

Make sure your beverages reach consumers all over the world as fresh as the day they were produced.

Item Description	Size
KeyKeg [®] 20	10 Liters 20 Liters 30 Liters



KEGS



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