

FOOTPRINTS

AHTANUM® • CITRA® • EKUANOT™ • LORAL® • MOSAIC® • PALISADE® • SIMCOE® • WARRIOR®



SELECT
BOTANICALS
G · R ·  · U · P

HARVEST REPORT • DECEMBER 2017



**BE CREATIVE
BE ACCOUNTABLE
CONTRIBUTE**

GROW **BE BOLD**

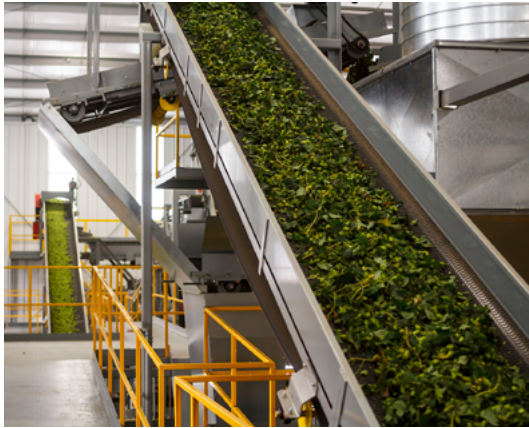
Select Botanicals Group, LLC (SBG) is an integrated crop management company that specializes in breeding new hop varieties for the global brewing industry. *Our purpose is to create, grow, and protect value for all within our footprint through developing first class hop varieties, relentlessly pursuing quality, and building meaningful relationships.* The roots of SBG extend back to the late 1980's, when three hop farming families, the Carpenters, Perraults and Smiths, came together to form Yakima Chief Ranches (YCR), a hop production company with a focused effort on hop breeding and research. AHTANUM®, SIMCOE®, WARRIOR®, and PALISADE® were the initial selections released from the YCR breeding program, and continue to be available today. In 2002, the YCR breeding program became the company known today as Select Botanicals Group.

The SBG breeding program joined forces with the John I. Haas breeding program to form Hop Breeding Company (HBC) in 2003. HBC's mission is to develop pest-resistant and disease-resistant hop brands with strong commercial qualities. This hop breeding powerhouse takes advantage of the combined resources of both companies through full integration of breeding efforts. All brands from the breeding program are released jointly. CITRA®, MOSAIC®, EKUANOT™, and LORAL® are among the popular brands released by HBC since the formation of the company.

We thoroughly appreciate the time many of you spent with us at the farm this past year, and are pleased to share our 2017 harvest report. As we move toward 2018, we look forward to enjoying the tasty beers crafted with this year's hops.

HARVEST 2017

Harvest is an eventful time in the three hop growing regions in the Pacific Northwest, and 2017 was no exception. While production levels came in fairly average, successes and challenges were abundant. Here is a look at some of the highlights from harvest 2017.



Successes

- Great quality
- Wonderful interaction with the brewing community
- Good yields

Challenges

- Picking machine issues tightened windows
- Pest pressure and high seed content was a problem in some growing areas

BRANDS

SBG is proud to work with a diverse group of growers throughout the Pacific Northwest. To assure hop supply balances with brewers needs, we have continually expanded grower acreage. In 2011, SBG worked with three growers, and have now expanded to over 40 farms across three states - Washington, Oregon, and Idaho.

SBG BRANDS



PALISADE® BRAND YCR-4

RELEASE DATE 2003

Stonefruit • Floral • Spice

ALPHA	BETA	CO-H	TOTAL OIL
5.5-9.5%	6-8%	24-29%	1.4-1.6 ml

PALISADE® Brand YCR-4 is an aroma hop that is well known for its good yield, and pleasant aroma. PALISADE® is used regularly in commercial brewing.



WARRIOR® BRAND YCR-5

RELEASE DATE 2000

Very clean bittering hop

ALPHA	BETA	CO-H	TOTAL OIL
15-18%	4.3-5.3%	22-26%	1.3-1.7 ml

WARRIOR® Brand YCR-5 hop is an alpha hop used for its mild, clean bittering qualities, which translate well into American pale ales and IPAs.

SBG BRANDS



AHTANUM® BRAND YCR-1		RELEASE DATE 1997	
Citrus • Earthy • Floral • Spice			
ALPHA	BETA	CO-H	TOTAL OIL
5.7-6.3%	5-6.5%	30-35%	0.8-1.2 ml

AHTANUM® Brand YCR-1 is the first brand to have been bred and released from the SBG breeding program. It is an aroma hop utilized for its desirable aromatic properties and moderate bittering.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	156,854	0	0	0	0	0
	2017	383,249	0	0	0	0	0
2017 PRODUCTION GOALS		440 thousand pounds					
2017 ACTUAL PRODUCTION		383 thousand pounds (-13%)					
HIGHLIGHTS		Over two hundred acres of hop stunt viroid free rootstock were planted allowing for a total cleanup of the brand. Quality was exceptional.					
CHALLENGES		Late pot planting due to propagation logistics, led to an overall yield reduction that prevented us from meeting our total production goal.					



SIMCOE® BRAND YCR-14		RELEASE DATE 2000	
Piney • Citrus • Passion Fruit • Earthy			
ALPHA	BETA	CO-H	TOTAL OIL
12-14%	4-5%	15-20%	2-2.5 ml

SIMCOE® Brand YCR-14 hops are recognized for their brewing versatility and unique aromas. SIMCOE® hops boast several different aromas, along with smooth bittering qualities, and an alpha acid level of 12-14%.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	6,454,271	54,042	299,250	0	500,016	0
	2017	6,041,678	41,880	450,051	0	588,271	0
2017 PRODUCTION GOALS		7 million pounds					
2017 ACTUAL PRODUCTION <i>*Total excludes organic</i>		7.08 million pounds (+1%)					
HIGHLIGHTS		2017 was the most consistent quality year for SIMCOE® in recent memory.					
CHALLENGES		SIMCOE® production in Oregon and Idaho had some mite pressure, and lower than average yields.					

HBC BRANDS



CITRA® BRAND HBC 394		RELEASE DATE 2007	
Tropical Fruit • Grapefruit • Melon • Gooseberry • Lychee Fruit • Citrus			
ALPHA	BETA	CO-H	TOTAL OIL
11-13%	3.5-4.5%	22-24%	2.2-2.8 ml

The CITRA® Brand HBC 394 hop has fairly high alpha acids and total oil contents, with a low percentage of cohumulone. CITRA® hops impart interesting citrus and tropical fruit characters to beer.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	2,538,213	48,920	245,261	28,000	277,889	76,920
	2017	3,312,564	35,812	521,681	28,000	435,755	63,812
2017 PRODUCTION GOALS		4 million pounds					
2017 ACTUAL PRODUCTION <i>*Total excludes organic</i>		4.27 million pounds (+7%)					
HIGHLIGHTS		Consistent quality, improved yields in Idaho.					
CHALLENGES		Several CITRA® lots were rejected for not meeting quality standards, as a result of picking window pressure, and severe pest pressure.					



EKUANOT™ BRAND HBC 366		RELEASE DATE 2014	
Melon • Berry • Citrus-Lime • Apple • Papaya			
ALPHA	BETA	CO-H	TOTAL OIL
14.5-15.5%	4.5-5.5%	32-38%	2.5-4.5 ml

EKUANOT™ Brand HBC 366 bursts out of the spring soil a vibrant yellow, and then matures to a deep green by fall harvest. EKUANOT™ not only has dynamic aromas, but also a relatively high oil content.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	1,200,061	0	0	0	0	0
	2017	573,000	0	0	0	62,000	0
2017 AROMA PRODUCTION GOALS		630 thousand pounds					
2017 AROMA ACTUAL PRODUCTION		635 thousand pounds (+1%)					
HIGHLIGHTS		Consistent quality.					
CHALLENGES		As a result of lots being picked outside of the optimal picking window, and some pest pressure, several EKUANOT™ lots were rejected for not meeting quality standards.					



HBC BRANDS



LORAL® BRAND HBC 291		RELEASE DATE 2016	
Floral • Citrus • Peppery • Dark Fruit			
ALPHA	BETA	CO-H	TOTAL OIL
11.3-12.2%	4.9-5.4%	21-24%	1.8-2.9 ml

LORAL® Brand HBC 291 is the newest hop brand to be released from the HBC breeding program. With a noble heritage, LORAL® straddles the fence between old and new world hop aromatics and is truly complementary to all beer styles.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	192,395	0	0	0	0	0
	2017	270,000	0	0	0	0	0
2017 PRODUCTION GOALS		240 thousand pounds					
2017 ACTUAL PRODUCTION		270 thousand pounds (+9%)					
HIGHLIGHTS		2017 was an exceptional year for LORAL®, both in terms of yield and quality.					
CHALLENGES		While not unique to LORAL®, this year's production did sustain minimal damage due to pest pressure.					



MOSAIC® BRAND HBC 369		RELEASE DATE 2012	
Fruity • Floral • Citrus • Earthy • Melon • Tropical • Blueberry			
ALPHA	BETA	CO-H	TOTAL OIL
11.5-13.5%	3.2-3.9%	24-26%	1-1.5 ml

MOSAIC® Brand HBC 369 hops offer a unique and complex blend of tropical, fruity, and earthy characteristics that translate very favorably into a variety of beer styles.

TOTAL PRODUCTION (LBS)							
SBG GROWERS # OF FARMS / STATE		WASHINGTON		IDAHO		OREGON	
	Years	Conventional	Organic	Conventional	Organic	Conventional	Organic
	2016	3,007,034	2,600	576,358	0	244,778	0
	2017	2,913,132	1,620	629,024	0	507,844	0
2017 PRODUCTION GOALS		3 million pounds					
2017 ACTUAL PRODUCTION		4.05 million pounds (+35%)					
HIGHLIGHTS		MOSAIC® had great quality, and yield, with fairly consistent picking windows throughout the three growing areas.					
CHALLENGES		In certain areas, severe pest pressure combined with picking window pressure resulted in the rejection of several lots due to low quality standards.					

FOOTPRINTS™

SBG'S BRAND MANAGEMENT PROGRAM

FOOTPRINTS® is the comprehensive brand management program that SBG employs to ensure the highest level of attention is given to the growing and harvesting of our hops. We employ fully-dedicated personnel to make certain these standards are met. Since the inception of FOOTPRINTS® in 2012, SBG managed brands have consistently been among the purest and highest quality hops on the market and have garnered an excellent reputation for quality and consistency.

VARIETAL PURITY

SBG supplies true to type rootstock for each managed brand ensuring varietal purity.

- New plantings shall occur in fields that did not previously cultivate hops. If a field did have hops in the ground, it must be fumigated prior to planting any SBG managed brand.
- Yards are scouted throughout the year to identify any off-types or males. If off-type plants are located, their removal is coordinated with the grower.

FOOD SAFETY

SBG is committed to providing brewers with the cleanest, highest-quality hops possible. To maintain this commitment, SBG requires adherence to YCH's GreenChief® farm quality program.

- An early season facility walkthrough is conducted at every farm to help growers identify potential issues with food safety.
- A pre-harvest audit ensures any food safety infraction identified during the early season walkthrough has been addressed.
- Ongoing food safety training is required for SBG employees.
- Pesticide use is monitored to ensure all applications are administered within the legal limits for pesticide residues.

CROP MANAGEMENT

SBG works with growers to ensure best management practices are applied to each brand.

This includes:

- Optimal training dates.
- Integrated grower support through joint collaboration with YCH.
- Optimized harvest window dates.
- All SBG managed fields are GPS mapped to aid in crop management and traceability.

HARVEST QUALITY & TRACEABILITY

Even the highest quality crop can be compromised with faulty harvest and kilning practices. SBG requires specific standards on how our brands are harvested to ensure a consistent, high-quality product.

- Aroma hops are dried at a lower temperature (as dictated by individual varietal standards) to preserve oil content.
- Hops must be clean, free of debris, and a consistent green color true to type.
- Kiln depth may not exceed 30 inches to maintain a uniform dryness.
- Delivered bales must have a moisture rating between 8.5% and 10.5%.
- SBG and YCH employ key measures of traceability to ensure SBG hops can be monitored from the fields of our growers to the fermenters of our customers.
- We provide detailed annual performance reports and rankings to growers for feedback and continuous improvement opportunities.



SELECT BOTANICALS G·R··U·P

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We believe in partnering with grower owned companies to get our hops to market. Yakima Chief-Hopunion is the handler and distributor of choice for our hops. For information on hop availability and contracting visit: ychhops.com.