



2019

STATISTICAL REPORT

RELEASED JANUARY 2020

PRESENTED BY
HOP GROWERS OF AMERICA



TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	3-4
U.S. HOP ACREAGE BY STATE AND VARIETY (5 YEARS)	5-6
TOP 10 PACIFIC NORTHWEST HOP VARIETIES	7
CHART – MAJOR PNW HOP VARIETIES	7
<u>PNW HOP ACREAGE BY STATE (10 YEARS)</u>	<u>8</u>
CHART – US HOP ACREAGE (1992-2019)	8
PNW HOP YIELDS BY STATE AND VARIETY (5 YEARS)	9-10
U.S. AVERAGE HOP YIELDS (10 YEARS)	11
CHART – US HOP ACREAGE – AROMA/DUAL PURPOSE VS. ALPHA	11
<u>U.S. HOP PRODUCTION BY STATE AND VARIETY (5 YEARS)</u>	<u>12-13</u>
CHART – PNW HOP PRODUCTION – ALPHA VS. AROMA POUNDS, AVE. YIELD	14
U.S. HOPS: SEASON AVERAGE PRICE & TOTAL CROP VALUE	14
U.S. HOP STOCKS	15
2019 U.S. HOP INSPECTION REPORT	16
<u>U.S. HOP LEAF, STEM & SEED CONTENT PERCENTAGE (10 YEARS)</u>	<u>16</u>
2019 US-GROWN HOP VARIETY CODES	17
IHGC AROMA ACREAGE (5 YEARS)	18
IHGC ALPHA ACREAGE (5 YEARS)	18
<u>IHGC TOTAL ACREAGE (5 YEARS)</u>	<u>19</u>
2019 IHGC HOP ACREAGE AND PRODUCTION	19
U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)	20
CHART – WORLD ALPHA PRODUCTION & DEMAND (10 YEARS)	20
<u>CHART – COMPARISON OF IHGC CROPS 2005-2019</u>	<u>21</u>
CHART - COMPOSITION OF WORLD HOP ACREAGE 1992 VERSUS 2019	22
CHART – WORLD’S LARGEST ALPHA PRODUCERS	22
WORLD HOP ACREAGE & PERCENT SHARE (10 YEARS)	23
<u>WORLD HOP PRODUCTION & PERCENT SHARE (10 YEARS)</u>	<u>23</u>
U.S. HOP EXPORTS BY COUNTRY – TOP 40 (5 YEARS)	24
U.S. HOP IMPORTS BY COUNTRY (5 YEARS)	25
WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2017/18 vs. 1988	25-26
WORLD BEER PRODUCTION (5 YEARS)	26

Conversions used while compiling
the data presented in this document:

1 hectare = 2.4711 acres
 1 acre = 0.404686 hectares
 1 kilogram = 2.2046 pounds
 1 pound = 0.4536 kilograms
 1 metric tonne = 2204.6 pounds
 1 hectoliter = 26.417 gallons
 1 zentner = 110.23 pounds

Editor's Note: For 2019, the U.S. Hop Acreage chart on pages 4-5 includes estimates for 26 additional states, in addition to the three Pacific Northwest states where commercial hops have traditionally been grown. Data for Oregon, Washington and Idaho were provided by the USDA National Agricultural Statistics Service from annual grower surveys. Estimates for the remaining states were provided to Hop Growers of America by a network of growers, researchers, Extension specialists, brewers, and hop marketers. Special thanks to members of the Great Lakes Hop Working Group and Hop Growers of America Small Grower Council for their assistance in estimating acreage for many of these additional states.

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EXECUTIVE SUMMARY

Commercial U.S. hop acreage increased another 2.6% in 2019, with total production exceeding the 2018 crop by 4.7%. Citra[®], HBC 394 widened its lead as the US hop acreage leader, while Cascade held onto the #2 spot. Centennial fell to fifth place as Simcoe[®], YCR 14 and Mosaic[®], HBC 369 took over the third and fourth place slots. Proprietary hop varieties now hold half of the top ten acreage slots. Average yields per acre improved to 1,981 pounds per acre, although many production regions outside of the PNW struggled with severe weather challenges that resulted in disappointing yields.

2019's production again reached a new record of 113 million pounds, which includes an estimate for farms not counted by USDA-NASS. NASS only surveys the PNW – Washington, Oregon, and Idaho – as they grow the majority of the US crop and are the modern traditional home of the US commercial hop industry. HGA's network of contacts across the country provided estimates for acreage and yields – this year the survey calculated an estimate of 2,386 acres outside of the PNW yielding 1,000,000 pounds.

Washington production represented 73.2% of the Pacific Northwest, followed by Idaho with 15.2% and Oregon with 11.6%. The remaining states commercial hop production is estimated at one million pounds, as weather related challenges in several regions caused decreased yields.

Since 2012 (7 years) US hop acreage has increased 98.7%, from 29,683 to 58,977 acres. During that period the variety balance shifted from roughly 50-50 alpha and aroma hops in 2012 to 75.4% aroma varieties in 2019. In 2019 alpha represented 24.6% of US acreage.

Top 10 PNW Hop Varieties by Acreage:

Rank	2014	2015	2016	2017	2018	2019
1	Cascade	Cascade	Cascade	Cascade	Citra®, HBC 394	Citra®, HBC 394
2	CTZ	CTZ	Centennial	Centennial	CTZ	CTZ
3	Centennial	Centennial	CTZ	Citra®, HBC 394	Cascade	Cascade
4	Summit	Simcoe®, YCR 14	Citra®, HBC 394	CTZ	Centennial	Simcoe®, YCR 14
5	Simcoe®, YCR 14	Citra®, HBC 394	Simcoe®, YCR 14	Simcoe®, YCR 14	Simcoe®, YCR 14	Mosaic®, HBC 369
6	Citra®, HBC 394	Mosaic®, HBC 369	Mosaic®, HBC 369	Mosaic®, HBC 369	Chinook	Centennial
7	Chinook	Chinook	Chinook	Chinook	Mosaic®, HBC 369	Amarillo®, VGXP01
8	Nugget	Summit	Summit	Willamette	Amarillo®, VGXP01	Chinook
9	Willamette	Willamette	Willamette	Summit	Pahto®, HBC 682	Pahto®, HBC 682
10	Apollo™	Apollo™	Apollo™	Apollo™	Summit	Summit

Growers have faced substantial increases in the cost of production, driven by expansion of harvesting and production capacity to handle a doubling of acreage over the past 8 years, updating equipment, increased labor costs (including health care and other benefits), and inflation in the cost of production inputs. Administrative and operating costs associated with food safety, best practices compliance and other customer requirements have also increased. Lower yielding aroma varieties have a higher cost per pound to maintain a consistent gross income per acre.

The 2015 Washington State University Pacific Northwest Hop Cost of Production Study estimated the annual cost of producing standard trellis hops under drip irrigation in the PNW at \$9,806 per acre (including fixed costs) – see <https://www.usahops.org/growers/cost-of-production.html>. The US Department of Labor Bureau of Labor Statistics’ national Consumer Price Index, used to calculate inflation, was 0.7%, 2.1%, 2.1%, and 1.9% respectively for 2015 through 2018. Applying these adjustments results in estimated 2019 production costs of \$10,490 per acre, resulting in an estimated net income of \$768 per acre in 2019. However, the US CPI is likely to be too conservative for PNW hop production, due to factors discussed above, which would decrease the net income per acre.

Year	PNW Acres Harvested	PNW Production (pounds)	Yield	Value of Production (\$1,000)	Gross Return per acre*
2012	29,683	58,911,400	1,985	\$186,876	\$6,296
2013	35,288	69,246,100	1,962	\$232,308	\$6,583
2014	38,011	70,995,900	1,868	\$260,627	\$6,857
2015	43,633	78,846,000	1,807	\$345,388	\$7,916
2016	50,857	87,139,600	1,713	\$498,420	\$9,800
2017	53,989	105,621,500	1,959	\$591,375	\$10,954
2018	55,035	106,906,700	1,943	\$583,444	\$10,601
2019	56,544	112,041,200	1,981	\$636,580	\$11,258

* Gross return per acre before deducting production costs.

Source: USDA-NASS, prepared by HGA.

US HOP ACREAGE BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	ACRES HARVESTED					2018-19 % +/-
	2015	2016	2017	2018	2019	
ARIZONA	1.0	1.0	1.0	1.0	1.0	0.00%
CALIFORNIA	85.0	130.0	130.0	130.0	130.0	0.00%
COLORADO	125.0	200.0	200.0	147.0	147.0	0.00%
CONNECTICUT	*	15.0	15.0	15.0	15.0	0.00%
IDAHO #						
Amarillo®, VGXP01	*	*	983.0	825.0	575.0	-30.30%
Apollo™	286.0	235.0	228.0	232.0	*	
Bravo™	166.0	151.0	149.0	87.0	*	
Calypso	81.0	81.0	81.0	81.0	81.0	0.00%
Cascade	770.0	788.0	882.0	836.0	710.0	-15.07%
Centennial	*	*	255.0	*	*	
Chinook	358.0	418.0	699.0	962.0	786.0	-18.30%
Citra®, HBC 394	412.0	576.0	759.0	855.0	973.0	13.80%
Cluster	*	*	*	63.0	*	
Columbus/Tomahawk®/Zeus	*	*	*	*	991.0	
Comet	*	*	*	*	112.0	
Crystal	*	123.0	182.0	150.0	131.0	-12.67%
El Dorado®	205.0	227.0	219.0	120.0	352.0	193.33%
Eureka!™	*	*	*	133.0	185.0	39.10%
Galena	*	*	*	109.0	113.0	3.67%
Idaho 7™	*	*	*	*	388.0	
Mosaic®, HBC 369	272.0	496.0	500.0	506.0	801.0	58.30%
Saaz	*	*	*	*	140.0	
Simcoe®, YCR 14	199.0	232.0	394.0	449.0	469.0	4.45%
Super Galena™	92.0	69.0	*	84.0	*	
Willamette	*	*	128.0	*	170.0	
Zeus	661.0	580.0	1,061.0	1,496.0	611.0	-59.16%
Experimental	72.0	9.0	26.0	*	*	
Other Varieties	1,289.0	1,663.0	579.0	1,152.0	770.0	-33.16%
TOTAL IDAHO #	4,863.0	5,648.0	7,125.0	8,140.0	8,358.0	2.68%
ILLINOIS	30.0	30.0	30.0	30.0	30.0	0.00%
INDIANA	25.0	50.0	50.0	50.0	50.0	0.00%
IOWA	30.0	40.0	60.0	60.0	60.0	0.00%
KENTUCKY	*	20.0	30.0	12.0	12.0	0.00%
MAINE	11.5	24.0	24.0	24.0	24.0	0.00%
MARYLAND	15.0	15.0	20.0	20.0	20.0	0.00%
MASSACHUSETTS	*	25.0	25.0	30.0	30.0	0.00%
MICHIGAN	320.0	650.0	810.0	750.0	720.0	-4.00%
MINNESOTA	26.0	73.0	120.0	120.0	122.0	1.67%
MONTANA	1.0	12.0	17.0	36.0	36.0	0.00%
NEBRASKA	17.0	24.0	39.0	44.0	46.5	5.68%
NEW HAMPSHIRE	*	2.0	2.0	2.0	2.0	0.00%
NEW JERSEY	*	15.0	15.0	15.0	15.0	0.00%
NEW YORK	250.0	300.0	400.0	400.0	400.0	0.00%
NORTH CAROLINA	40.0	30.0	30.0	30.0	35.0	16.67%
NORTH DAKOTA	*	2.0	3.5	3.5	3.5	
OHIO	50.0	70.0	100.0	70.0	85.0	21.43%
OREGON #						
Amarillo®, VGXP01	*	*	*	*	227.0	
Cascade	1,085.0	1,211.0	1,247.0	1,064.0	1,039.0	-2.35%
Centennial	631.0	723.0	789.0	698.0	614.0	-12.03%
Chinook	129.0	107.0	124.0	129.0	114.0	-11.63%
Citra®, HBC 394	246.0	654.0	766.0	690.0	998.0	44.64%
Crystal	377.0	423.0	407.0	354.0	247.0	-30.23%
Fuggle	85.0	141.0	86.0	59.0	63.0	6.78%
Golding	238.0	*	215.0	121.0	92.0	-23.97%
Hallertau Magnum	199.0	151.0	47.0	105.0	*	
Liberty	210.0	*	*	*	*	
Mosaic®, HBC 369	*	*	337.0	*	478.0	
Mt. Hood	288.0	324.0	318.0	311.0	295.0	-5.14%
Nugget	1,484.0	1,460.0	1,467.0	1,307.0	1,059.0	-18.97%
Perle	*	*	76.0	77.0	*	
Simcoe®, YCR 14	191.0	330.0	461.0	436.0	440.0	0.92%
Sterling	209.0	228.0	227.0	191.0	147.0	-23.04%
Strata™ OR 91331	*	*	*	*	253.0	
Super Galena™	82.0	*	67.0	84.0	78.0	-7.14%
Tettnanger	133.0	122.0	72.0	72.0	*	
Willamette	661.0	833.0	892.0	913.0	619.0	-32.20%
Experimental	*	*	*	*	*	
Other Varieties	364.0	1,058.0	618.0	1,114.0	543.0	-51.26%
TOTAL OREGON #	6,612.0	7,765.0	8,216.0	7,725.0	7,306.0	-5.42%

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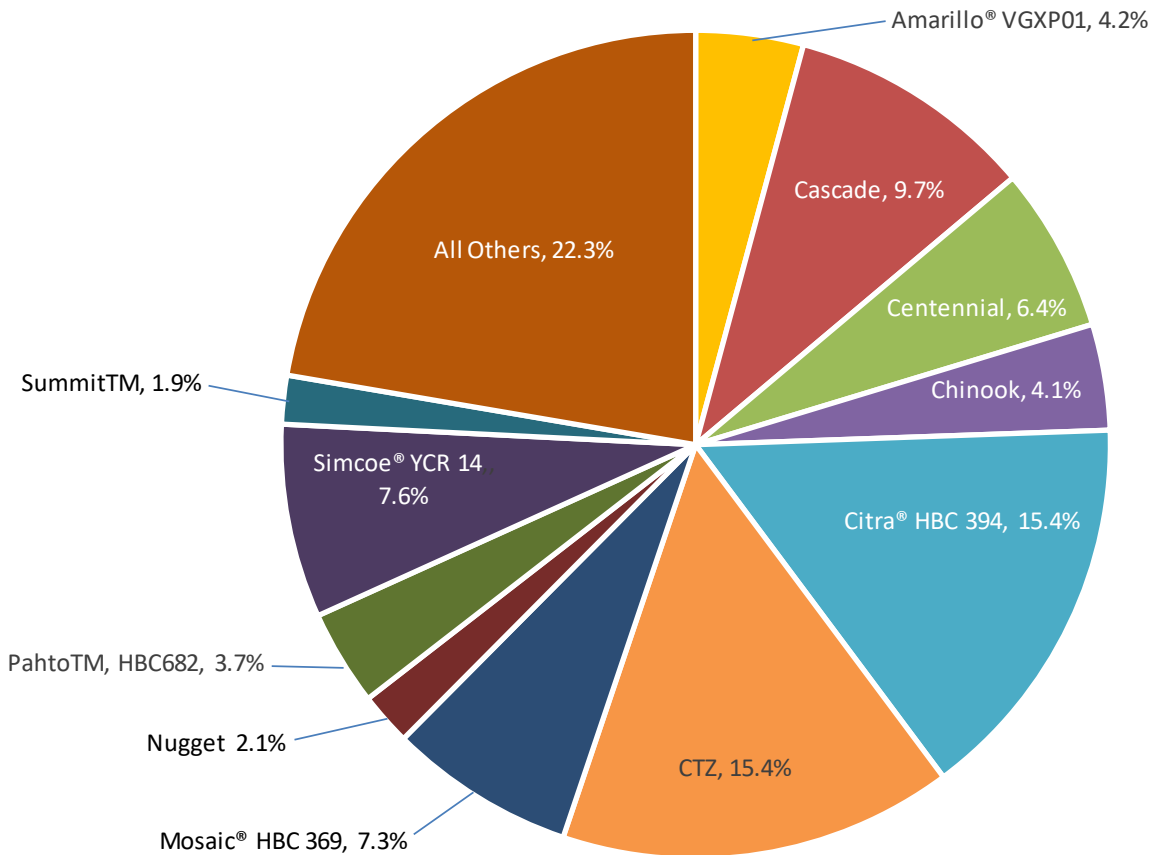
STATE & VARIETY	ACRES HARVESTED					2018-19
	2015	2016	2017	2018	2019	% +/-
PENNSYLVANIA	5.5	15.0	20.0	30.0	50.0	66.67%
RHODE ISLAND	*	10.0	10.0	10.0	10.0	0.00%
VERMONT	45.0	25.0	25.0	25.0	25.0	0.00%
VIRGINIA	30.0	30.0	30.0	30.0	30.0	0.00%
WASHINGTON #						
Ahtanum™	145.0	155.0	371.0	255.0	261.0	2.35%
Amarillo®, VGXP01	*	*	1,984.0	1,895.0	1,625.0	-14.25%
Apollo™	708.0	735.0	684.0	795.0	851.0	7.04%
Azacca™, ADHA-483	175.0	506.0	578.0	546.0	589.0	7.88%
Bravo™	569.0	573.0	486.0	280.0	236.0	-15.71%
Cascade	4,935.0	5,582.0	4,966.0	4,274.0	3,718.0	-13.01%
Cashmere	*	*	*	195.0	310.0	58.97%
Centennial	3,770.0	4,359.0	4,375.0	3,875.0	3,031.0	-21.78%
Chinook	1,300.0	1,415.0	1,632.0	1,734.0	1,437.0	-17.13%
Citra®, HBC 394	2,335.0	3,264.0	3,715.0	4,837.0	6,720.0	38.93%
Cluster	666.0	623.0	621.0	610.0	470.0	-22.95%
Columbus/Tomahawk®/Zeus	1,673.0	1,416.0	1,659.0	2,034.0	2,323.0	14.21%
Comet	108.0	163.0	205.0	218.0	210.0	-3.67%
Crystal	131.0	191.0	122.0	114.0	66.0	-42.11%
Ekuanot™, HBC 366	*	*	890.0	865.0	632.0	-26.94%
El Dorado®	243.0	396.0	463.0	418.0	641.0	53.35%
Eureka!™	*	*	362.0	409.0	425.0	3.91%
Galena	295.0	262.0	378.0	390.0	297.0	-23.85%
Glacier	155.0	145.0	*	*	*	
Golding	53.0	*	*	*	*	
Hallertau Magnum	108.0	*	*	*	*	
Idaho 7™	*	*	*	*	85.0	
Jarrylo™, ADHA-881	122.0	131.0	*	*	*	
Loral™, HBC 291	*	*	186.0	172.0	125.0	-27.33%
Millennium	*	*	*	*	*	
Mosaic®, HBC 369	1,528.0	2,029.0	1,877.0	1,932.0	2,829.0	46.43%
Mt. Hood	130.0	88.0	87.0	104.0	53.0	-49.04%
Mt. Rainier	*	*	*	306.0	239.0	-21.90%
Northern Brewer	123.0	*	*	*	*	
Nugget	202.0	186.0	125.0	126.0	104.0	-17.46%
Pahto™, HBC 682	*	*	*	1,721.0	2,109.0	22.55%
Palisade®, YCR-4	454.0	580.0	571.0	515.0	477.0	-7.38%
Pekko™, ADHA-871	*	*	*	92.0	279.0	
Sabro™, HBC 438	*	*	*	*	724.0	
Simcoe®, YCR 14	2,916.0	3,769.0	3,753.0	3,103.0	3,367.0	8.51%
Sorachi Ace	*	*	*	146.0	*	
Summit™	1,620.0	1,769.0	1,617.0	1,574.0	1,072.0	-31.89%
Super Galena™	351.0	310.0	435.0	500.0	473.0	-5.40%
Tahoma	*	*	217.0	209.0	230.0	10.05%
Tettnanger	*	*	38.0	*	*	
Vanguard	84.0	*	*	*	*	
Willamette	698.0	728.0	571.0	376.0	270.0	-28.19%
Zeus	2,989.0	2,502.0	2,214.0	2,592.0	2,612.0	0.77%
Experimental	316.0	567.0	421.0	374.0	360.0	-3.74%
Other Varieties	3,256.0	5,000.0	3,045.0	1,584.0	1,630.0	2.90%
TOTAL WASHINGTON #	32,158.0	37,444.0	38,648.0	39,170.0	40,880.0	4.37%
WISCONSIN	170.0	297.0	297.0	297.0	297.0	0.00%
TOTAL PACIFIC NORTHWEST	43,633.0	50,857.0	53,989.0	55,035.0	56,544.0	2.74%
TOTAL NON-PNW US	1,277.0	2,106.0	2,503.5	2,433.0	2,386.0	-1.93%
TOTAL UNITED STATES	44,910.0	52,963.0	56,492.5	57,468.0	58,930.0	2.54%

SOURCE: USDA-NASS, Virgil Gamache Farms, ADHA, and Hop Growers of America. Prepared by HGA. "Other Varieties" includes data to avoid disclosure of individual operations.

TOP 10 PACIFIC NORTHWEST HOP VARIETIES (WITH ACREAGE)

Rank	2014	2015	2016	2017	2018	2019
1	Cascade (6,619)	Cascade (6,790)	Cascade (7,581)	Cascade (7,175)	Citra®, HBC 394 (6,652)	Citra®, HBC 394 (9,035)
2	CTZ (5,775)	CTZ (5,323)	Centennial (5,082)	Centennial (5,534)	CTZ (6,102)	CTZ (6,539)
3	Centennial (3,353)	Centennial (4,401)	CTZ (4,498)	Citra®, HBC 394 (5,284)	Cascade (6,009)	Cascade (5,280)
4	Summit (2,522)	Simcoe®, YCR 14 (3,306)	Citra®, HBC 394 (4,494)	CTZ (4,952)	Centennial (4,864)	Simcoe®, YCR 14 (4,365)
5	Simcoe®, YCR 14 (1,886)	Citra®, HBC 394 (2,993)	Simcoe®, YCR 14 (4,331)	Simcoe®, YCR 14 (4,598)	Simcoe®, YCR 14 (3,916)	Mosaic®, HBC 369 (4,225)
6	Citra®, HBC 394 (1,761)	Mosaic®, HBC 369 (1,800)	Mosaic®, HBC 369 (2,525)	Mosaic®, HBC 369 (2,773)	Chinook (2,839)	Centennial (3,680)
7	Chinook (1,641)	Chinook (1,787)	Chinook (1,940)	Chinook (2,429)	Mosaic®, HBC 369 (2,768)	Amarillo®, VGXP01 (2,369)
8	Nugget (1,628)	Summit (1,620)	Summit (1,769)	Willamette (1,657)	Amarillo®, VGXP01 (2,734)	Chinook (2,368)
9	Willamette (1,159)	Willamette (1,359)	Willamette (1,561)	Summit (1,616)	Pahto®, HBC 682 (1,659)	Pahto®, HBC 682 (2,150)
10	Apollo™ (985)	Apollo™ (994)	Apollo™ (970)	Apollo™ (912)	Summit (1,574)	Summit (1,072)

MAJOR PNW HOP VARIETIES – 2019 (% of acreage)



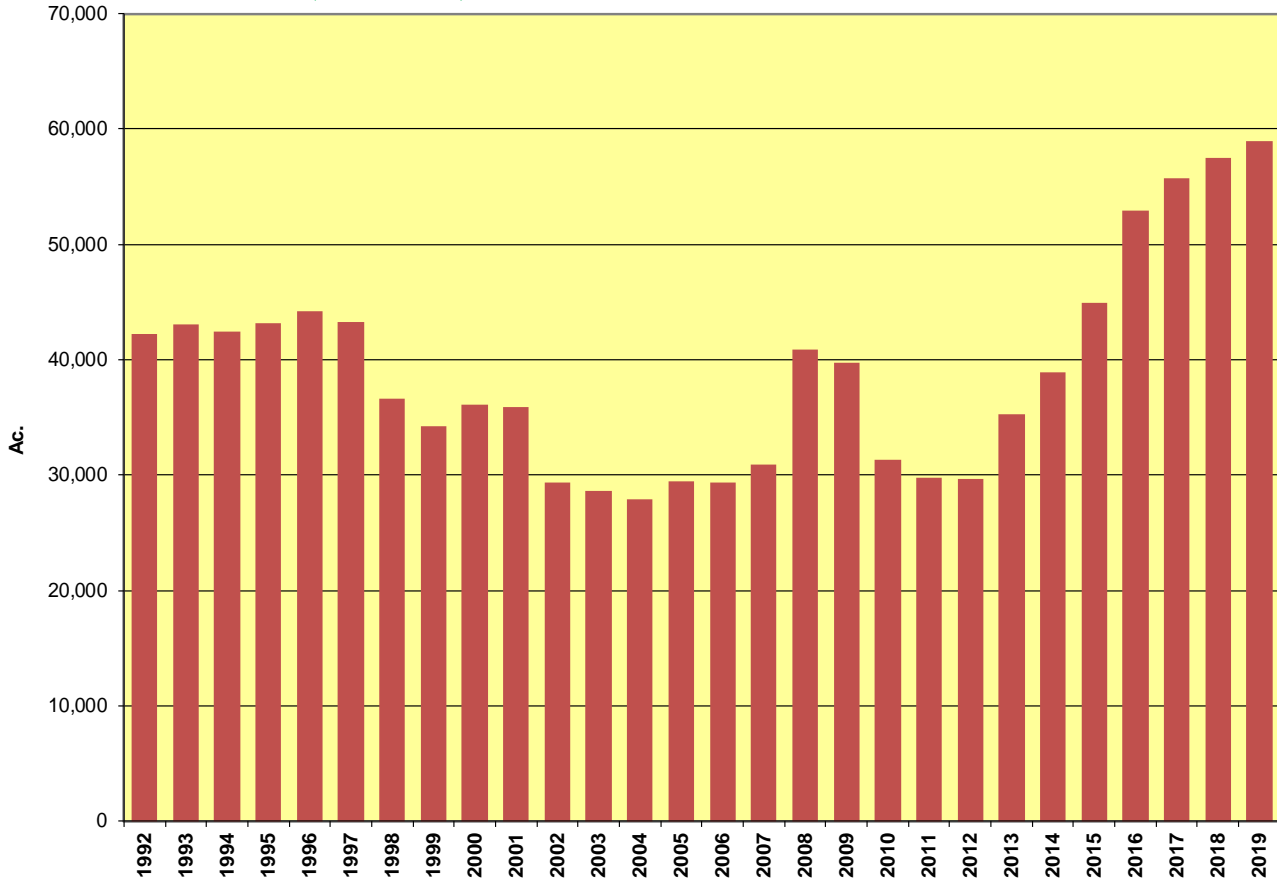
SOURCE: USDA-NASS. Prepared by HGA.

PACIFIC NORTHWEST HOP ACREAGE BY STATE (10 YEARS - IN ACRES)

YEAR	ACREAGE HARVESTED			TOTAL
	WASHINGTON	OREGON	IDAHO	
2010	24,336	4,622	2,331	31,289
2011	23,320	4,202	2,265	29,787
2012	22,696	4,391	2,596	29,683
2013	27,097	4,835	3,356	35,288
2014	28,858	5,410	3,743	38,011
2015	32,158	6,612	4,863	43,633
2016	37,444	7,765	5,648	50,857
2017	38,648	8,216	7,125	53,989
2018	39,170	7,725	8,140	55,035
2019	40,880	7,306	8,358	56,544

SOURCE: USDA-NASS. Prepared by HGA.

US HOP ACREAGE (1992-2019)



SOURCE: USDA-NASS and HGA Hop Acreage Reports

HOP YIELDS BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2018-19
	2015	2016	2017	2018	2019	% +/-
IDAHO						
Amarillo®, VGXP01	*	*	1,569	2,009	1,613	-19.71%
Apollo™	2,062	1,893	1,798	1,951	*	
Bravo™	2,625	2,359	2,799	2,226	*	
Calypso™	1,710	1,937	2,159	2,138	1,901	-11.09%
Cascade	1,633	1,585	1,771	1,716	1,823	6.24%
Centennial	*	*	2,028	*	*	
Chinook	1,850	1,712	1,665	1,873	2,215	18.26%
Citra®, HBC 394	1,271	1,213	1,657	1,415	1,532	8.27%
Cluster	*	*	*	2,126	*	
Columbus/Tomahawk®/Zeus	*	*	*	*	3,002	
Comet	*	*	*	*	1,970	
Crystal	*	1,678	2,084	1,927	1,971	2.28%
El Dorado®	1,125	1,658	2,163	1,463	1,352	-7.59%
Eureka!™	*	*	*	2,299	2,243	-2.44%
Galena	*	*	*	1,715	1,773	3.38%
Idaho 7™	*	*	*	*	2,562	
Mosaic®, HBC 369	2,278	2,204	2,581	2,333	2,296	-1.59%
Saaz	*	*	*	*	771	
Simcoe®, YCR 14	1,576	1,335	1,494	1,245	1,164	-6.51%
Super Galena™	2,189	1,872	*	2,493	*	
Willamette	*	*	1,689	*	1,695	
Zeus	2,909	2,761	2,756	2,764	2,672	-3.33%
Experimental	1,269	1,000	611	*	*	
Other Varieties ²	1,348	1,174	1,929	1,845	1,907	3.36%
Total Idaho¹	1,794	1,646	1,974	1,995	2,034	1.95%
OREGON						
Amarillo®, VGXP01	*	*	*	*	2,208	
Cascade	1,994	1,597	1,425	1,623	1,620	-0.18%
Centennial	1,352	1,235	1,273	1,277	1,661	30.07%
Chinook	1,861	1,675	1,667	1,674	1,733	3.52%
Citra®, HBC 394	980	1,047	1,475	1,600	1,476	-7.75%
Crystal	2,011	2,216	1,772	1,819	1,943	6.82%
Fuggle	1,066	1,021	1,251	1,034	1,243	20.21%
Golding	837	*	1,181	1,160	1,351	16.47%
Hallertau Magnum	1,572	1,493	1,714	1,284	*	
Liberty	1,360	*	*	*	*	
Mosaic®, HBC 369	*	*	1,875	*	2,113	
Mt. Hood	1,276	1,463	1,439	1,411	1,538	9.00%
Nugget	1,888	1,925	1,820	1,946	2,130	9.46%
Perle	*	*	1,164	1,093	*	
Simcoe®, YCR 14	1,678	1,969	1,421	1,588	1,845	16.18%
Sterling	1,344	1,626	1,407	1,760	1,643	-6.65%
Strata™ OR 91331	*	*	*	*	2,066	
Super Galena™	2,340	*	2,096	2,216	2,580	16.43%
Tettnanger	1,242	1,193	1,013	1,027	*	
Willamette	1,226	1,573	1,324	1,484	1,717	15.70%
Experimental	*	*	*	*	*	
Other Varieties ²	1,609	1,546	1,573	2,068	1,644	-20.50%
Total Oregon	1,613	1,596	1,518	1,675	1,783	6.45%
(continued next page)						

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2018-19
	2015	2016	2017	2018	2019	% +/-
WASHINGTON						
Ahtanum™, YCR 1	1,557	1,012	1,052	2,730	1,960	-28.21%
Amarillo®, VGXP01	*	*	1,687	1,868	1,946	4.18%
Apollo™	2,738	2,225	2,729	2,848	2,735	-3.97%
Azacca™, ADHA-483	1,872	1,870	2,463	2,491	2,441	-2.01%
Bravo™	2,824	2,671	2,973	3,258	3,216	-1.29%
Cascade	1,936	1,727	2,124	1,972	1,920	-2.64%
Cashmere	*	*	*	1,519	1,699	11.85%
Centennial	1,145	1,355	1,703	1,364	1,820	33.43%
Chinook	1,793	1,420	1,784	1,875	1,942	3.57%
Citra®, HBC 394	1,541	1,543	1,748	1,611	1,424	-11.61%
Cluster	1,705	1,700	1,937	1,813	1,815	0.11%
Columbus/Tomahawk®/Zeus	2,524	1,969	2,646	2,482	2,584	4.11%
Comet	1,780	949	1,855	1,750	1,311	-25.09%
Crystal	1,183	1,475	2,063	2,357	1,989	-15.61%
Ekuanot™, HBC 366	*	*	2,740	2,583	2,483	-3.87%
El Dorado®	2,154	1,904	1,946	1,880	2,032	8.09%
Eureka!™	*	*	2,244	2,954	3,188	7.92%
Galena	1,968	1,692	2,134	2,149	2,045	-4.84%
Glacier	996	1,168	*	*	*	
Golding	854	*	*	*	*	
Hallertau Magnum	1,255	*	*	*	*	
Idaho 7™	*	*	*	*	1,544	
Jarrylo™, ADHA-881	1,541	1,408	*	*	*	
Loral™, HBC 291	*	*	2,295	2,349	2,515	7.07%
Mosaic®, HBC 369	2,036	2,326	2,439	2,351	2,054	-12.63%
Mt. Hood	1,069	1,075	1,043	1,454	1,037	-28.68%
Mt. Rainier	*	*	*	1,899	2,149	13.16%
Northern Brewer	991	*	*	*	*	
Nugget	1,927	1,774	1,950	1,498	2,313	54.41%
Pahto™, HBC 682	*	*	*	2,087	2,398	14.90%
Palisade®, YCR-4	1,950	2,228	2,209	2,441	2,520	3.24%
Pekko™, ADHA-871	*	*	*	1,889	*	
Sabro™, HBC 438	*	*	*	*	1,612	
Simcoe®, YCR 14	1,540	1,673	1,792	1,642	1,788	8.89%
Sorachi Ace	*	*	*	1,042	*	
Summit™	1,969	1,648	2,067	1,826	1,816	-0.55%
Super Galena™	2,729	2,501	2,647	3,133	2,871	-8.36%
Tahoma	*	*	1,752	2,147	1,958	-8.80%
Tettnanger	*	*	1,202	*	*	
Vanguard	1,223	*	*	*	*	
Willamette	1,007	1,277	1,446	1,348	1,596	18.40%
Zeus	2,819	2,469	3,088	2,619	2,620	0.04%
Experimental	1,545	1,592	1,901	1,889	2,251	19.16%
Other Varieties ²	1,603	1,662	1,746	1,896	1,888	-0.42%
Total Washington	1,849	1,748	2,047	1,984	2,006	1.11%
Total Pacific Northwest	1,807	1,713	1,959	1,943	1,981	1.96%

SOURCE: USDA-NASS and VGF. Prepared by HGA. State and variety yields for production outside of the Pacific Northwest are not reported.

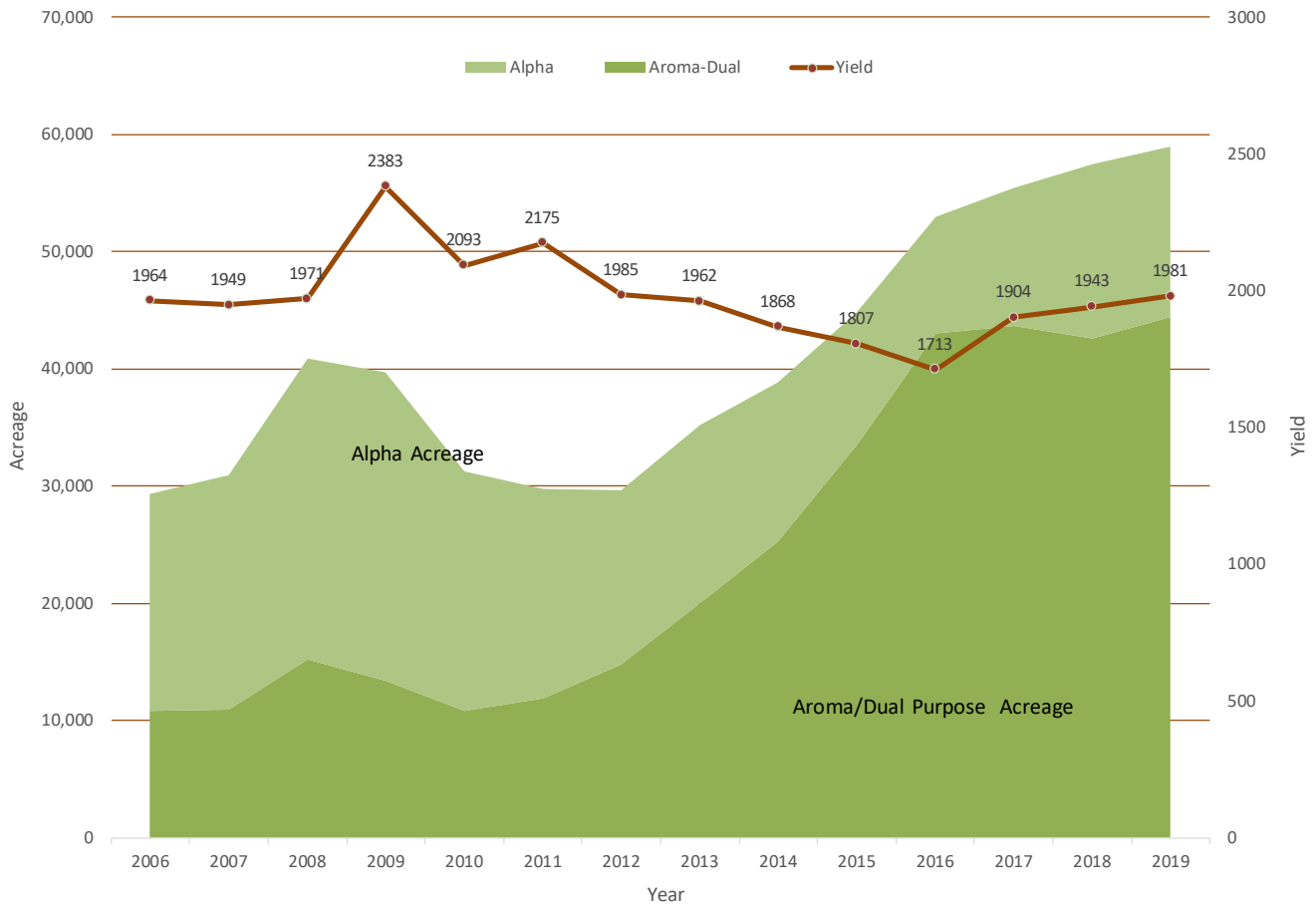
"Other Varieties" includes data to avoid disclosure of individual operations.

PACIFIC NORTHWEST AVERAGE HOP YIELD (TEN YEARS)

YEAR	POUNDS PER ACRE			
	WASHINGTON	OREGON	IDAHO	TOTAL
2010	2,147	1,791	2,129	2,093
2011	2,200	1,908	2,408	2,175
2012	2,047	1,746	1,841	1,985
2013	2,025	1,764	1,740	1,962
2014	1,936	1,520	1,847	1,868
2015	1,849	1,613	1,794	1,807
2016	1,748	1,596	1,646	1,713
2017	2,046	1,518	1,974	1,956
2018	1,984	1,675	1,995	1,943
2019	2,006	1,783	2,034	1,981

SOURCE: USDA-NASS. Prepared by HGA.

U.S. HOP ACREAGE – AROMA/DUAL PURPOSE VS. ALPHA



HOP PRODUCTION BY STATE AND VARIETY (FIVE YEARS)

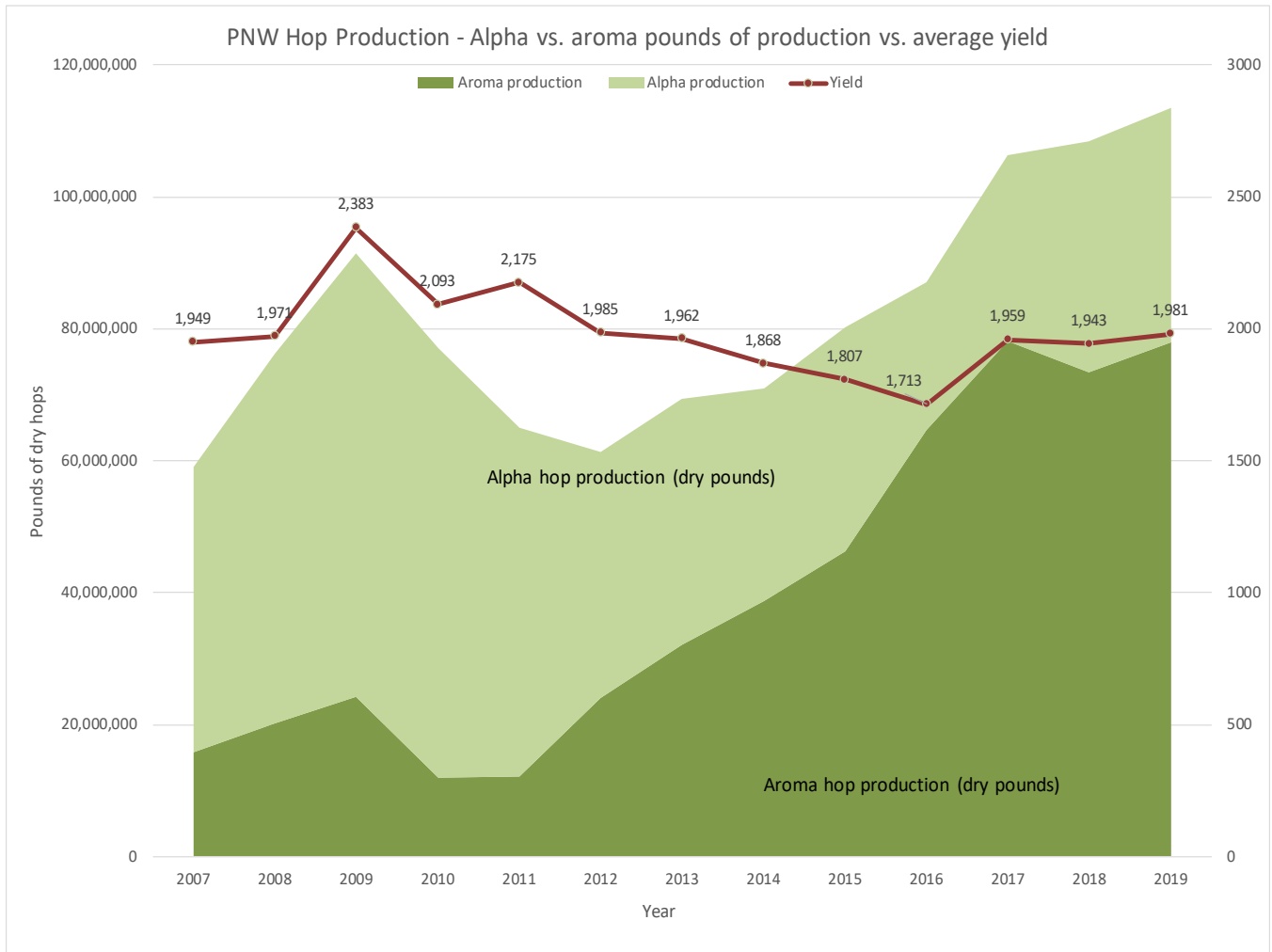
STATE & VARIETY	HOP PRODUCTION (POUNDS)					2018-2019
	2015	2016	2017	2018	2019	% +/-
IDAHO						
Amarillo [®] , VGXP01	*	*	1,542,300	1,657,400	928,162	-44.00%
Apollo [™]	589,600	444,900	409,900	452,600	*	
Bravo [™]	435,700	356,200	417,100	193,700	*	
Calypso [™]	138,500	156,900	174,900	173,200	154,000	-11.09%
Cascade	1,257,800	1,248,900	1,562,000	1,434,600	1,294,300	-9.78%
Centennial	*	*	517,100	*	*	
Chinook	662,200	715,500	1,163,800	1,801,800	1,741,000	-3.37%
Citra [®] , HBC 394	523,700	698,500	1,257,700	1,229,500	1,490,600	21.24%
Cluster	*	*	*	133,900	*	
Columbus/Tomahawk [®] /Zeus	*	*	*	*	2,975,000	
Comet	*	*	*	*	220,600	
Crystal	*	206,400	379,300	289,100	258,200	-10.69%
El Dorado [®]	230,600	376,300	473,700	175,600	475,900	171.01%
Eureka! [™]	*	*	*	305,800	415,000	35.71%
Galena	*	*	*	186,900	200,300	7.17%
Idaho 7 [™]	*	*	*	*	994,100	
Mosaic [®] , HBC 369	619,700	1,093,400	1,290,500	1,180,500	1,839,100	55.79%
Saaz	*	*	*	*	107,900	
Simcoe [®] , YCR 14	313,600	309,800	588,600	559,000	545,900	-2.34%
Super Galena [™]	201,400	129,200	*	209,400	*	
Willamette	*	*	216,200	*	288,200	
Zeus	1,922,800	1,601,100	2,924,100	4,134,900	1,632,600	-60.52%
Experimental	91,400	9,000	15,900	*	*	
Other Varieties	1,737,900	1,951,600	1,134,200	2,124,900	1,442,238	-32.13%
Total Idaho	8,724,900	9,297,700	14,067,300	16,242,800	17,003,100	4.68%
OREGON						
Amarillo [®] , VGXP01	*	*	*	*	501,374	
Cascade	2,163,000	1,934,500	1,777,000	1,726,900	1,683,200	-2.53%
Centennial	853,300	893,200	1,004,400	891,300	1,019,900	14.43%
Chinook	240,000	179,200	206,700	215,900	197,600	-8.48%
Citra [®] , HBC 394	241,000	684,700	1,129,900	1,104,000	1,473,000	33.42%
Crystal	758,100	937,200	721,200	643,900	479,900	-25.47%
Fuggle	90,600	143,900	107,600	61,000	78,300	28.36%
Golding	199,300	*	253,900	140,400	124,300	-11.47%
Hallertau Magnum	312,900	225,500	80,600	134,800	*	
Liberty	285,600	*	*	*	*	
Mosaic [®] , HBC 369	*	*	631,900	*	1,010,000	
Mt. Hood	367,600	473,900	457,600	438,800	453,700	3.40%
Nugget	2,802,100	2,810,900	2,669,900	2,543,400	2,255,700	-11.31%
Perle	*	*	88,500	84,200	*	
Simcoe [®] , YCR 14	320,500	649,900	655,100	692,400	811,800	17.24%
Sterling	280,800	370,800	319,400	336,200	241,500	-28.17%
Strata [™] OR 91331	*	*	*	*	522,700	
Super Galena [™]	191,900	*	140,400	186,100	201,200	8.11%
Tettnanger	165,200	145,600	72,900	73,900	*	
Willamette	810,300	1,310,000	1,181,000	1,359,500	1,062,800	-21.82%
Experimental	*	*	*	*	*	
Other Varieties	585,600	1,636,000	972,400	2,303,500	906,226	-60.66%
Total Oregon	10,667,800	12,395,300	12,470,400	12,936,200	13,023,200	0.67%
(continued next page)						

STATE & VARIETY	HOP PRODUCTION (POUNDS)					2018-19
	2015	2016	2017	2018	2019	% +/-
WASHINGTON						
Ahtanum	225,800	156,900	390,300	696,200	736,000	5.72%
Amarillo [®] , VGXP01	*	*	3,347,000	3,539,900	3,185,846	-10.00%
Apollo [™]	1,938,600	1,635,600	1,866,600	2,264,200	2,327,500	2.80%
Azacca [™] , ADHA-483	327,600	946,400	1,423,600	1,360,100	1,437,700	5.71%
Bravo [™]	1,606,700	1,530,500	1,444,900	912,200	759,000	-16.79%
Cascade	9,553,300	9,638,800	10,547,800	8,428,300	7,138,600	-15.30%
Cashmere	*	*	*	296,200	526,700	77.82%
Centennial	4,317,300	5,908,600	7,450,600	5,285,500	5,516,400	4.37%
Chinook	2,331,100	2,008,900	2,911,500	3,251,300	2,790,700	-14.17%
Citra [®] , HBC 394	3,597,200	5,035,000	6,493,800	7,792,400	9,569,300	22.80%
Cluster	1,135,700	1,058,800	1,202,900	1,105,900	853,100	-22.86%
Columbus/Tomahawk [®] /Zeus	4,223,400	2,787,900	4,389,700	5,048,400	6,002,600	18.90%
Comet	192,200	154,700	380,300	381,500	275,300	-27.84%
Crystal	155,000	281,700	251,700	268,700	131,300	-51.14%
Ekuanot [™] , HBC 366	*	*	2,438,600	2,234,300	1,569,300	-29.76%
El Dorado [®]	523,500	754,000	901,000	785,800	1,302,500	65.75%
Eureka! [™]	*	*	812,300	1,208,200	1,354,900	12.14%
Galena	580,600	443,300	806,700	838,100	607,400	-27.53%
Glacier	154,400	169,300	*	*	*	
Golding	45,300	*	*	*	*	
Hallertau Magnum	135,500	*	*	*	*	
Idaho 7 [™]	*	*	*	*	131,200	
Jarrylo [™] , ADHA-881	188,000	184,400	*	*	*	
Loral [™] , HBC 291	*	*	426,900	404,000	314,400	-22.18%
Mosaic [®] , HBC 369	3,111,600	4,720,400	4,578,000	4,542,100	5,810,800	27.93%
Mt. Hood	139,000	94,600	90,700	151,200	55,000	-63.62%
Mt. Rainier	*	*	*	581,100	513,600	-11.62%
Northern Brewer	121,900	*	*	*	*	
Nugget	389,200	330,000	243,800	188,700	240,600	27.50%
Pahto [™] , HBC 682	*	*	*	3,591,700	5,057,400	40.81%
Palisade [®] , YCR-4	885,200	1,292,500	1,261,300	1,257,100	1,202,000	-4.38%
Pekko [™] , ADHA-871	*	*	*	173,800	337,452	
Sabro [™] , HBC 438	*	*	*	*	1,167,100	
Simcoe [®] , YCR 14	4,489,500	6,305,100	6,725,400	5,095,100	6,020,200	18.16%
Sorachi Ace	*	*	*	152,100	*	
Summit [™]	3,189,600	2,914,500	3,342,300	2,874,100	1,946,800	-32.26%
Super Galena [™]	957,800	775,300	1,151,400	1,566,500	1,358,000	-13.31%
Tahoma	*	*	380,200	448,700	450,300	0.36%
Tettnanger	*	*	45,700	*	*	
Vanguard	102,700	*	*	*	*	
Willamette	703,100	929,300	825,700	506,800	430,900	-14.98%
Zeus	8,426,300	6,178,500	6,836,800	6,788,400	6,843,400	0.81%
Experimental	488,400	902,700	800,300	706,500	810,400	14.71%
Other Varieties	5,217,800	8,308,900	5,316,000	3,002,600	3,241,202	7.95%
Total Washington	59,453,300	65,446,600	79,083,800	77,727,700	82,014,900	5.52%
Total Pacific Northwest	78,846,000	87,139,600	105,621,500	106,906,700	112,041,200	4.80%
Other States Estimate ¹	1,249,000	1,500,000	1,875,000	1,500,000	1,000,000	-33.33%
Total US Estimate	80,095,000	88,639,600	107,496,500	108,406,700	113,041,200	4.28%

SOURCE: USDA-NASS and VGF. Prepared by HGA. "Other Varieties" includes data to avoid disclosure of individual operations.

¹ Production outside of PNW estimated from reports submitted by growers, extension and university personnel.

U.S. HOP PRODUCTION – ALPHA VS. AROMA POUNDS OF PRODUCTION



U.S. HOPS: SEASON AVERAGE PRICE & TOTAL CROP VALUE

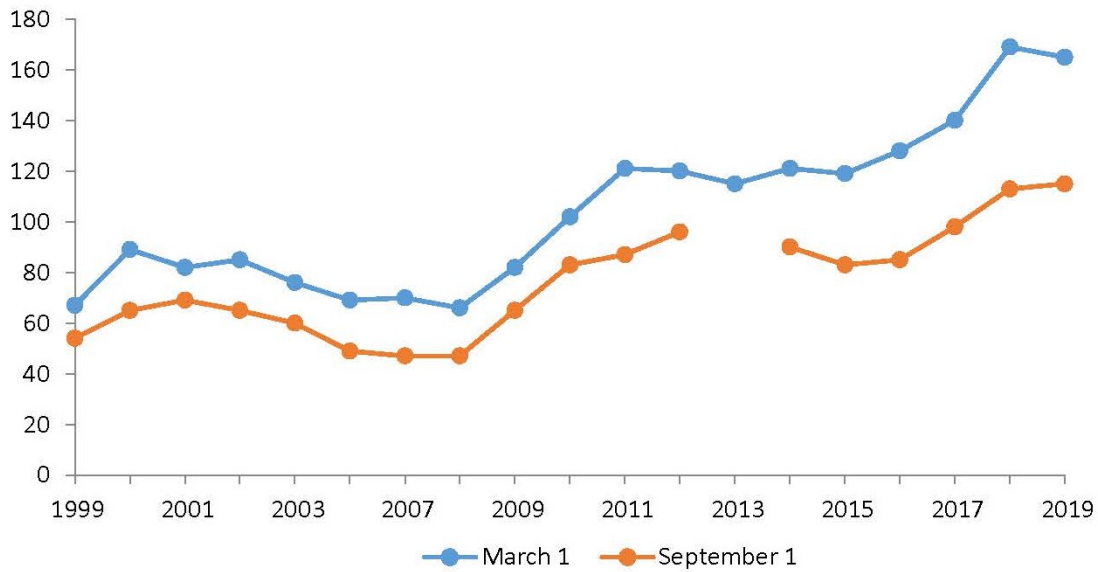
Marketing Year	SEASON AVERAGE PRICE				PNW Production (Lbs. x 1,000)	Total Crop Value (x 1,000)
	Washington	Oregon	Idaho	U.S.		
	----- (\$ / pound) -----					
2010	\$3.11	\$3.96	\$3.89	\$3.28	65,493	\$214,589
2011	\$3.06	\$3.79	\$2.93	\$3.14	64,782	\$203,378
2012	\$3.10	\$3.91	\$2.69	\$3.17	58,911	\$186,876
2013	\$3.37	\$3.76	\$2.62	\$3.35	69,246	\$232,308
2014	\$3.73	\$4.07	\$2.72	\$3.67	70,995	\$260,627
2015	\$4.71	\$3.24	\$3.53	\$4.38	78,846	\$345,388
2016	\$5.84	\$5.25	\$5.50	\$5.72	87,140	\$498,420
2017	\$5.80	\$5.00	\$5.00	\$5.60	105,622	\$591,375
2018	\$5.50	\$5.40	\$5.30	\$5.46	106,907	\$583,444
2019	\$5.80	\$5.50	\$5.25	\$5.68	112,041	\$636,580

SOURCE: USDA-NASS. Prepared by HGA.

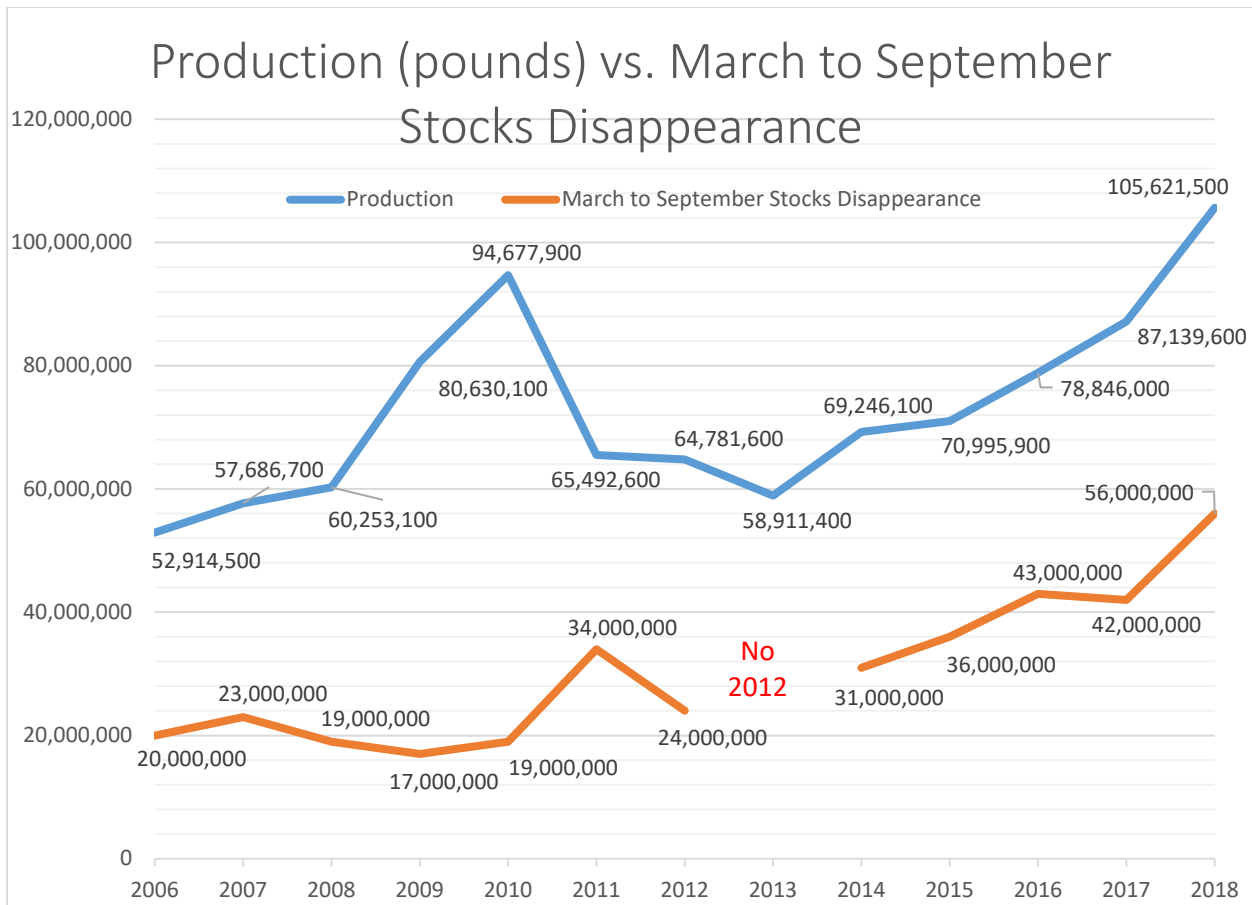
U.S. HOPS STOCKS

Hop Stocks - United States

Million pounds



SOURCE: USDA-NASS. Due to Federal funding cuts the September 2012 Hop Stocks survey was not conducted. All data is based in Pacific Northwest totals.



SOURCE: USDA-NASS. Prepared by HGA. Due to Federal funding cuts the September 2012 Hop Stocks survey was not conducted. All data is based on Pacific Northwest totals.

2019 HOP INSPECTION REPORT

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
2015	284,461	47,202	42,301	373,964
2016	329,539	59,641	47,123	436,303
2017	397,491	61,652	66,328	525,471
2018	397,027	63,359	78,432	538,818
2019	413,742	72,551	84,400	570,693

	0%	1%	2%	3%	4%	5%	6%	7%	TOTAL	AVERAGE
WA	309,974	90,875	11,414	1,135	177	167	0	0	413,742	0.29%
OR	46,499	24,196	1,479	377	0	0	0	0	72,551	0.39%
ID	60,369	18,924	3,411	1,196	314	0	186	0	84,400	0.38%
Total	416,842	133,995	16,304	2,708	847	277	0	0	564,725	0.37%
% of Total	69%	27%	4%	1%	0%	0%	0%	0%	100%	

	0%	1%	2%	3%	4%	5%	6%	7+%	TOTAL	AVERAGE
WA	201,026	79,661	54,080	31,154	23,750	11,289	4,937	7,845	413,742	1.25%
OR	25,158	20,333	9,613	3,936	2,854	4,867	1,524	4,266	72,551	1.81%
ID	64,160	10,959	5,830	1,667	977	387	420	0	84,400	0.43%
Total	290,344	110,953	69,523	36,757	27,581	16,543	6,881	12,111	570,693	1.19%
% of Total	51%	19%	12%	6%	5%	3%	1%	2%	100%	

SOURCE: State Hop Inspection Labs. Prepared by HGA.

U.S. HOP LEAF, STEM & SEED CONTENT PERCENTAGE (10 YEARS)

Year	WASHINGTON Leaf & Stem	OREGON Leaf & Stem	IDAHO Leaf & Stem	U.S. AVERAGE %	
				Leaf & Stem	Seed Content
2011	0.14	0.09	0.02	0.12	1.34
2012	0.33	0.16	0.05	0.29	0.66
2013	0.28	0.34	0.23	0.28	0.68
2014	0.32	0.18	0.09/1.11	0.30	0.64
2015	0.42	0.51	0.32	0.42	0.78
2016	0.33	0.31	0.19	0.31	1.31
2017	0.26	0.50	0.46	0.32	0.87
2017	0.26	0.50	0.46	0.32	0.87
2018	0.37	0.16	0.78	0.41	0.48
2019	0.29	0.39	0.38	0.37	1.19

SOURCE: State Hop Inspection Labs. Prepared by HGA.

2019 US-GROWN HOP VARIETY CODES (INTERNATIONALLY HARMONIZED)

Brand/Variety	Code	Brand/Variety	Code
Ahtanum [®] Brand YCR 1	AHT	Medusa [™]	MED
Alpharoma	AAA	Meridian	MER
Amarillo [®] , VGXP01	VG1	Millennium	MLM
Apollo [™]	APO	Mosaic [®] Brand HBC 369	MOS
Aquila	AQU	Mt. Hood	MTH
Azacca [®] , ADHA-483	AZA	Mt. Rainier	MTR
Banner	BAN	Newport	NWP
Belma	BEL	Northern Brewer	NBR
Bitter Gold	BIG	Nugget	NUG
Bravo [™]	BRO	Olympic	OLC
Brewers Gold	BGO	Other	OTH
BRU-1	BR1	Pahto [™] Brand HBC 682	PAH
Bullion	BUL	Palisade [®] Brand YCR 4	PAL
Calypso [™]	CPO	Pekko [®] , ADHA-871	PEK
Cascade	CAS	Perle	PER
Cashmere	CMR	Saaz	SAZ
Centennial	CEN	Sabro [™] Brand HBC 438	SAB
Chelan	CHE	Santiam	SNT
Chinook	CHI	Satus [®] , YCR 7	SAT
Citra [®] Brand HBC 394	CIT	Serebrianka	SEK
Cluster	CLU	Simcoe [®] Brand YCR 14	SIM
Columbia	CBA	Sonnet [™]	SON
Columbus	CBS	Sorachi Ace	SOR
Comet	COM	Spalter	SPA
Crystal	CRY	Sterling	STR
Delta [™]	DEL	Strata [™] , OR91331	STT
Ekuanot [®] Brand HBC 366	EKU	Strissel Spalt	FSP
El Dorado [®]	ELD	Summit [™]	SUM
Eroica	ERO	Sultana [™] (06277, formerly Denali [™])	SUL
Eureka! [™]	EUE	Super Galena [™]	SGA
Experimental	EXP	Tahoma	TAH
Fuggle	FUG	Talisman	TLN
Galena	GAL	Teamaker	TMK
Glacier	GLC	Tettnanger	TET
Golding	GOL	Tillicum	TIL
Hallertauer Mittelfruher	HAL	Tomahawk [®] , F10	TOM
Hallertauer Magnum	HMG	Topaz	TOP
Horizon	HOR	TriplePearl	TRP
Idaho7 [™]	ID7	Triumph	TRI
Idaho Gem [™]	IDG	Ultra	ULT
Jarrylo [®] , ADHA-881	JAR	Vanguard	VAN
Lemondrop [™]	LDP	Warrior [®] Brand YCR 5	WAR
Liberty	LIB	Willamette	WIL
Loral [®] Brand HBC 291	LOR	Yakima Gold	YKG
Lotus [™]	LOT	Zappa [™]	ZAP
		Zeus	ZEU

Hop variety codes are internationally harmonized through a collaborative effort managed by the International Hop Growers Convention (IHGC) Scientific Commission.

IHGC AROMA ACREAGE (FIVE YEARS)

COUNTRY	AROMA ACREAGE (IN ACRES)					2018-19 % +/-
	2015	2016	2017	2018	2019	
Argentina			235	247	247	0.00%
Australia	217	247	1,102	1,184	1,176	-0.63%
Austria	462	462	460	470	479	2.11%
Belgium	205	220	282	311	306	-1.59%
Canada			541	541	541	
China	618	494	988	988	988	0.00%
Czech Rep.	10,253	10,826	11,325	11,562	11,629	0.58%
France	899	941	991	1,048	1,087	3.77%
Germany	23,908	24,867	25,927	26,742	26,836	0.35%
Japan			148	148	131	
New Zealand	811	877	917	917	1,478	61.19%
Poland	1,391	1,530	1,537	1,628	1,596	-1.97%
Romania	156	168	180	180	185	2.74%
Russia	208	208	544	544	415	-23.64%
Serbia	84	84	84	84	0	-100.00%
Slovakia	339	339	339	339	319	-5.84%
Slovenia	2,973	3,242	3,442	3,771	3,707	-1.70%
South Africa	0	0	84	180	180	0.00%
Spain	0	0	0	0	0	0.00%
Ukraine	764	764	764	764	764	0.00%
UK - England	1,690	1,693	2,390	2,387	1,945	-18.53%
USA	33,738	43,000	43,904	42,639	44,425	4.19%
IHGC Total	78,714	89,960	96,183	96,675	98,436	1.82%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2019 National Hop Report, released in December 2019. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC ALPHA ACREAGE (FIVE YEARS)

COUNTRY	ALPHA ACREAGE (IN ACRES)					2018-19 % +/-
	2015	2016	2017	2018	2019	
Argentina			161	148	148	0.00%
Australia	988	1,100	247	376	435	15.79%
Austria	143	143	143	143	143	0.00%
Belgium	161	148	133	133	143	7.41%
Canada			494	494	494	0.00%
China	5,066	4,448	5,642	5,642	5,642	0.00%
Czech Rep.	106	114	114	111	121	8.89%
France	121	82	89	96	64	-33.33%
Germany	17,345	17,925	18,716	20,918	22,025	5.29%
Japan			148	148	131	-11.67%
New Zealand	148	141	175	175	358	104.23%
Poland	1,940	2,039	2,093	2,268	2,511	10.68%
Romania	462	474	474	487	457	-6.09%
Russia	133	133	494	494	183	-63.00%
Serbia	82	82	82	82	20	-75.76%
Slovakia	0	0	0	0	0	0.00%
Slovenia	62	57	52	52	52	0.00%
South Africa	1,038	1,038	964	875	875	0.00%
Spain	1,320	1,325	1,327	1,327	1,322	-0.37%
Ukraine	148	148	148	148	148	0.00%
UK - England	519	519	0	418	423	1.18%
USA	11,500	9,981	11,777	14,829	14,505	-2.18%
IHGC Total	41,282	39,896	43,474	49,365	50,200	1.69%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2019 National Hop Report, released in December 2019. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC TOTAL ACREAGE (FIVE YEARS)

COUNTRY	TOTAL ACREAGE (IN ACRES)					2018-19
	2015	2016	2017	2018	2019	% +/-
Argentina			395	395	395	0.00%
Australia	1,206	1,349	1,559	1,611	1,730	7.36%
Austria	605	615	618	623	623	0.05%
Belgium	366	368	445	452	450	-0.55%
Canada			1,035	1,035	1,035	0.00%
China	5,684	4,942	6,630	6,630	6,630	0.00%
Czech Rep.	10,359	11,800	12,220	12,405	12,363	-0.34%
France	1,021	1,134	1,189	1,226	1,248	1.81%
Germany	41,253	45,958	48,293	49,778	50,452	1.36%
Japan			297	297	262	-11.67%
New Zealand	959	1,018	1,092	1,312	1,836	39.92%
Poland	3,329	3,645	3,894	3,894	4,156	6.73%
Romania	618	667	667	684	650	-5.05%
Russia	341	1,038	1,161	1,161	628	-45.96%
Serbia	166	195	195	195	20	-89.87%
Slovakia	339	339	339	339	329	-2.92%
Slovenia	3,035	3,667	3,929	4,119	3,944	-4.26%
South Africa	1,038	1,021	1,048	1,055	1,055	0.00%
Spain	1,320	1,325	1,327	1,327	1,322	-0.37%
Ukraine	912	912	912	912	912	0.00%
UK - England	2,209	2,271	2,390	2,387	2,367	-0.83%
USA	45,238	52,963	55,681	57,468	58,930	2.54%
IHGC Total	119,994	135,226	145,316	149,306	151,337	1.36%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2019 National Hop Report., released in December 2019. IHGC Total Acreage includes baby acreage (not included in separate aroma and alpha tables). Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC HOP ACREAGE AND PRODUCTION 2019

COUNTRY	2019 HOP ACREAGE (acres)				2019 HOP PRODUCTION (pounds)			
	AROMA	ALPHA	NEW	TOTAL	AROMA	ALPHA	TOTAL	Alpha MT.
Argentina	247	148	0	395	220,460	110,230	330,690	10
Australia	1,176	435	119	1,730	3,053,371	573,196	3,626,567	217
Austria	479	143	0	623	811,293	273,370	1,084,663	38
Belgium	306	143	0	450	379,191	273,370	652,562	25
Canada	541	494	0	1,035	725,313	661,380	1,386,693	63
China	988	5,642	0	6,630	1,199,302	14,329,900	15,529,202	600
Czech Rep.	11,629	121	613	12,363	14,925,142	286,598	15,211,740	292
France	1,087	64	96	1,248	1,604,949	207,232	1,812,181	24
Germany	26,836	22,025	1,591	50,452	49,603,500	57,099,140	106,702,640	4,950
Japan	131	131	0	262	180,777	264,552	445,329	25
New Zealand	1,478	358	0	1,836	1,719,588	526,899	2,246,487	100
Poland	1,596	2,511	49	4,156	2,204,600	4,188,740	6,393,340	244
Romania	185	457	7	650	198,414	231,483	429,897	20
Russia	415	183	30	628	440,920	330,690	771,610	20
Serbia	0	20	0	20	0	35,274	35,274	2
Slovakia	319	0	10	329	238,097	0	238,097	5
Slovenia	3,707	52	185	3,944	5,515,909	154,322	5,670,231	131
South Africa	180	875	0	1,055	169,754	1,492,514	1,662,268	75
Spain	0	1,322	0	1,322	0	1,829,818	1,829,818	94
Ukraine	764	148	0	912	881,840	176,368	1,058,208	30
UK - England	1,945	423	0	2,367	2,982,824	756,178	3,739,002	120
USA	44,425	14,505	0	58,930	77,418,720	35,622,480	113,041,200	5,755
IHGC Total	98,436	50,200	2,701	151,337	164,473,965	119,423,735	283,897,700	12,840

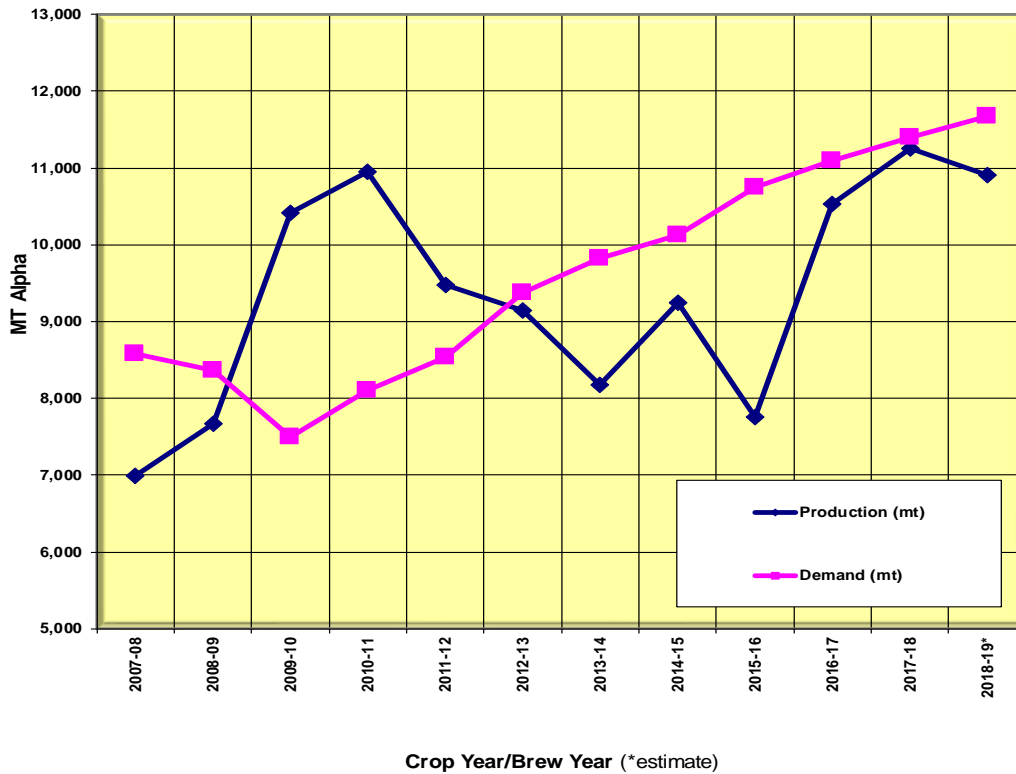
SOURCE: IHGC Economic Commission November report. US hop acreage and production are updated to reflect the USDA-NASS 2019 National Hop Report., released in December 2019. IHGC Total Acreage includes baby acreage (not included in separate aroma and alpha tables). Numbers may not total exactly due to rounding and standard/metric conversions. US and German alpha MT were updated from IHGC November Report to reflect international hop merchant estimates.

U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)

YEAR	UNITED STATES				GERMANY			
	Pounds of Hops (x 1,000)	MT Hops EBC 7.4 MT=2204.6 lb	MT Alpha	Avg. Alpha %*	Pounds of Hops (x 1,000)	MT Hops	MT Alpha EBC 7.4	Avg. Alpha %*
2010	64,954	29,463	3,517	11.9%	75,177	34,100	3,600	10.6%
2011	64,992	29,480	4,308	14.6%	82,673	37,500	4,400	11.7%
2012	61,249	27,782	3,500	12.6%	76,059	34,500	3,850	11.2%
2013	69,246	31,410	3,680	11.7%	60,746	27,554	2,680	9.7%
2014	70,996	32,204	3,541	11.0%	74,956	38,500	4,104	10.7%
2015	80,351	36,447	3,856	10.6%	62,170	28,200	2,700	9.6%
2016	88,640	40,207	4,082	10.2%	94,304	42,776	4,501	10.5%
2017	107,497	48,760	5,300	11.0%	91,614	41,556	4,047	9.7%
2018	108,407	49,173	5,277	10.7%	92,139	41,794	3,828	9.2%
2019	113,041	51,275	5,755	11.2%	106,703	48,400	4,950	10.2%

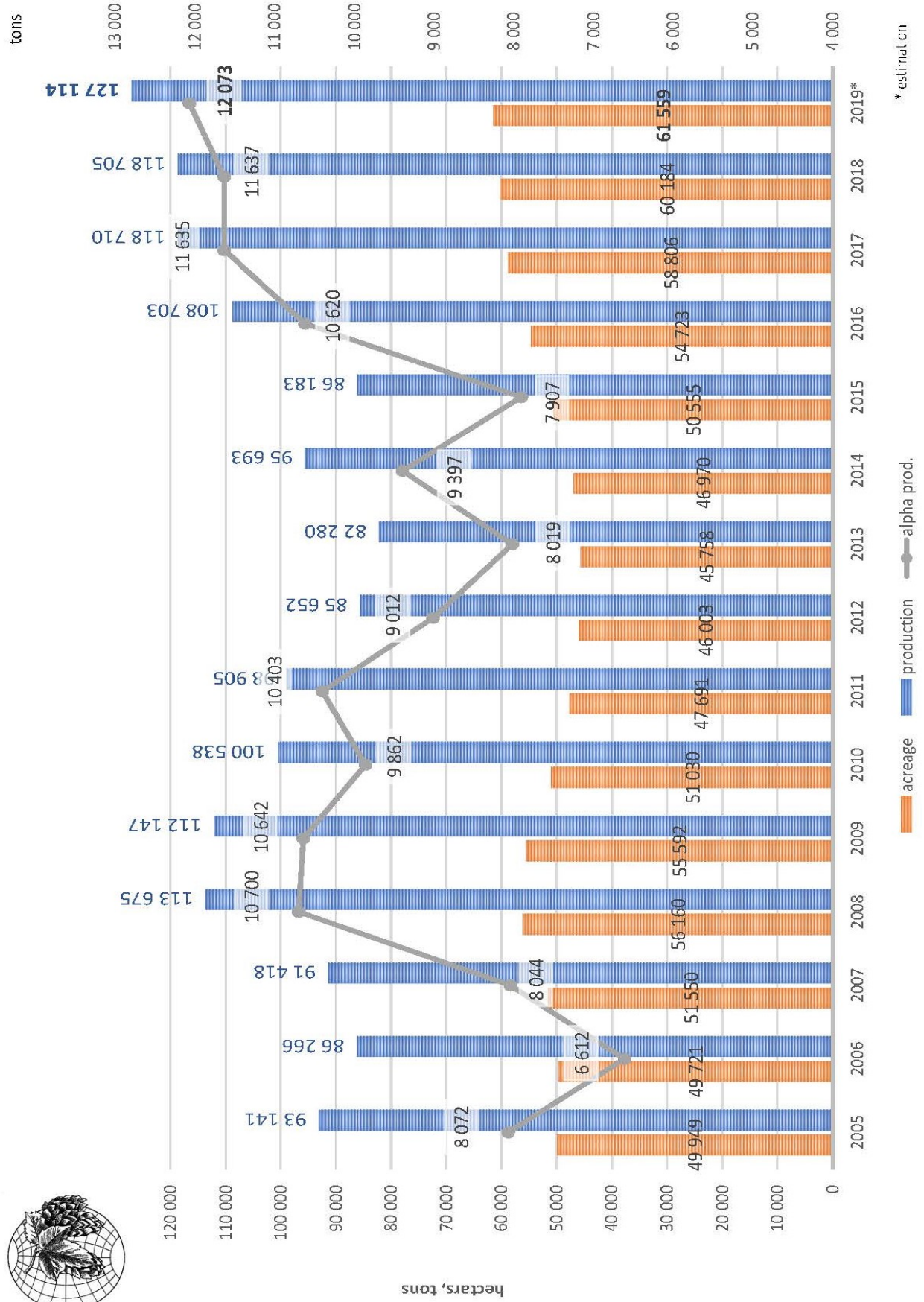
US figures include an estimate for non-PNW states, added to the Pacific Northwest production estimated by US hop merchant sources, based on EBC 7.4 method of analysis. Conversion factor of 90% is used to convert Spectro to EBC 7.4. German estimated alpha figure was also provided by hop merchant contacts.

WORLD ALPHA PRODUCTION & DEMAND

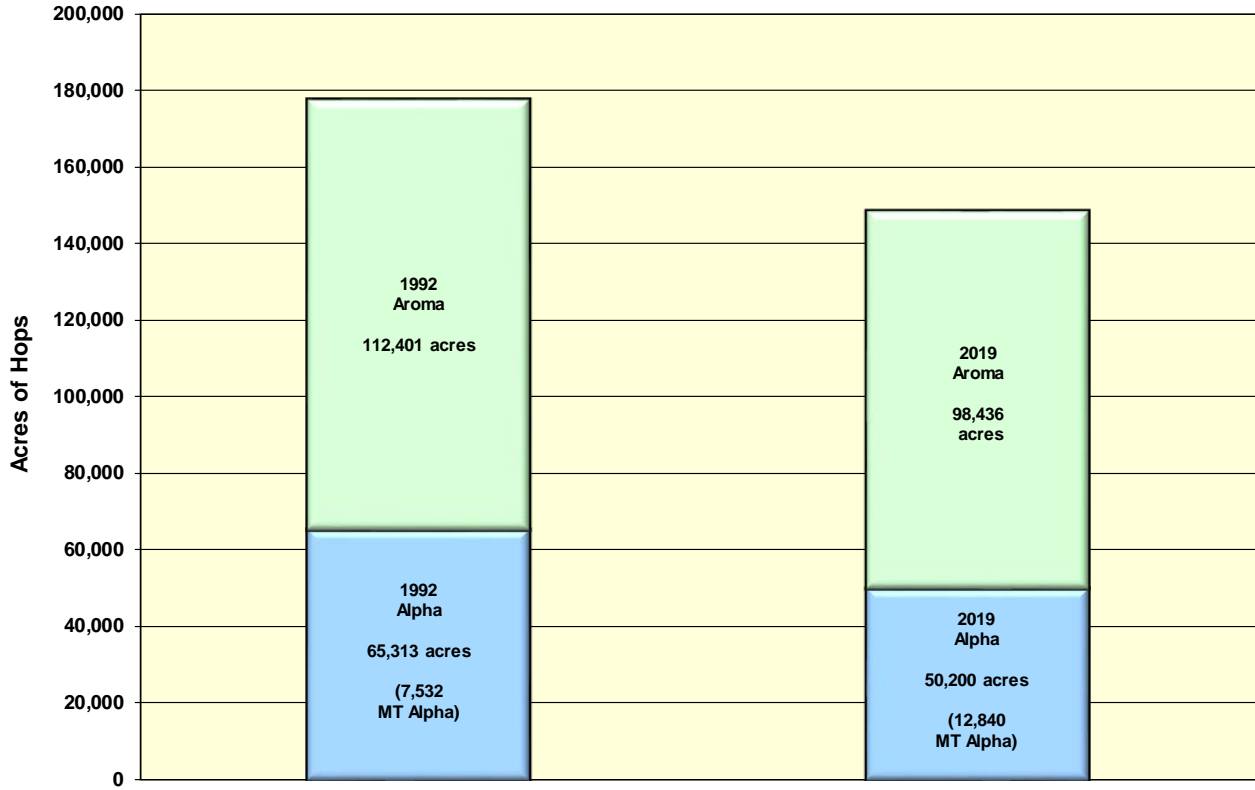


SOURCE: Barth Report. 2018-19. Prepared by HGA.

COMPARISON OF IHGC CROPS 2005-2019

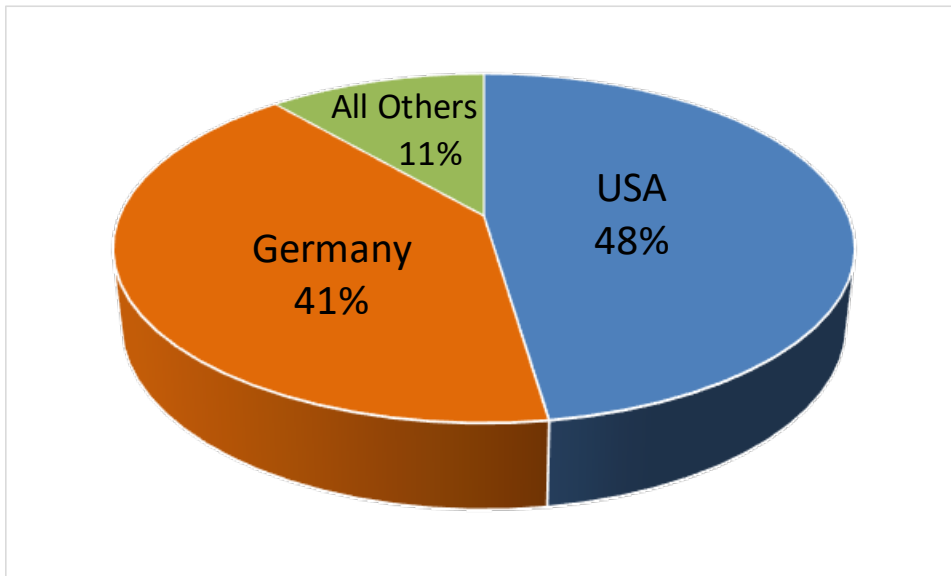


COMPOSITION OF WORLD HOP ACREAGE - 1992 VERSUS 2019



SOURCE: IHGC November Report and USDA NASS December National Hop Report. Prepared by HGA.

WORLD'S LARGEST ALPHA PRODUCERS – 2019



SOURCE: IHGC November Report. Prepared by HGA.

WORLD HOP ACREAGE & PERCENT SHARE (acres)

COUNTRY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
USA	31,247	28,787	29,683	35,288	38,892	45,238	52,980	55,681	57,468	58,930
	25%	25%	27%	32%	34%	38%	39%	38%	38%	39%
Germany	44,749	43,818	40,887	38,895	39,782	41,253	45,958	48,293	49,778	50,452
	36%	38%	37%	35%	34%	34%	34%	33%	33%	33%
Czech Rep.	12,398	10,952	10,564	10,178	10,018	10,359	11,800	12,220	12,405	12,363
	10%	10%	10%	9%	9%	9%	9%	8%	8%	8%
China	14,322	11,016	9,961	7,413	6,548	5,684	4,942	6,630	6,630	6,630
	11%	10%	9%	7%	6%	5%	4%	5%	4%	4%
UK-England	2,669	2,750	2,597	2,597	2,291	2,209	2,212	2,390	2,387	2,367
	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Europe (rest)	16,186	13,178	11,842	11,897	14,881	11,711	13,015	13,515	13,771	13,653
	13%	12%	11%	11%	13%	10%	10%	9%	9%	9%
World (rest)	3,941	3,620	3,575	3,650	3,508	3,544	3,793	5,552	5,831	5,906
	3%	3%	3%	3%	3%	3%	3%	4%	4%	4%

Europe (rest): Austria, Belgium, France, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Ukraine.

World (rest): Australia, New Zealand, Russia, South Africa, Argentina, Canada, Japan.

SOURCE: IHGC Economic Commission November 2019 report. US hop acreage updated to reflect USDA-NASS National Hop Report, released in December 20189

WORLD HOP PRODUCTION & PERCENT SHARE (pounds x 1,000)

COUNTRY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
USA	64,954	64,992	61,316	69,343	70,997	80,203	88,616	106,240	108,407	113,041
	29%	30%	31%	39%	34%	42%	37%	41%	42%	40%
Germany	75,177	82,673	76,059	60,746	84,657	62,170	94,136	91,614	91,932	106,703
	34%	38%	39%	34%	41%	33%	40%	35%	35%	38%
Czech	16,204	13,779	9,480	11,750	13,007	10,582	15,653	14,985	11,243	15,212
	7%	6%	5%	7%	6%	6%	7%	6%	4%	5%
China	35,494	29,982	26,334	13,228	13,228	13,228	9,921	15,529	15,529	15,529
	16%	14%	13%	7%	6%	7%	4%	6%	6%	5%
England	3,197	3,351	3,217	2,723	2,205	2,866	3,197	3,924	3,036	3,739
	1%	2%	2%	2%	1%	2%	1%	1%	1%	1%
Europe (rest)	21,398	17,077	14,777	14,202	17,791	14,874	18,466	19,440	20,035	19,204
	10%	8%	7%	8%	9%	8%	8%	7%	8%	7%
World (rest)	7,068	5,939	6,309	6,446	6,231	6,444	6,351	9,976	10,450	10,470
	3%	3%	3%	4%	3%	3%	3%	4%	4%	4%
World Totals	223,492	217,793	197,492	178,438	208,116	190,367	236,340	261,708	260,632	283,898

Europe (rest): Austria, Belgium, France, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Ukraine.

World (rest): Australia, New Zealand, Russia, South Africa, Argentina, Canada, Japan.

SOURCE: IHGC Economic Commission November 2019 report. Prepared by HGA.

EXPORTS OF U.S. HOPS (INCLUDING EXTRACT), TOP 40 COUNTRIES (2015-2019)

Rank	Partner	UOM	2015 Qty	2016 Qty	2017 Qty	2018 Qty	2019 Qty
1	Belgium-Luxembourg(*)	MT	897.7	1,204.4	1,622.0	2,138.9	2,475.6
2	Canada	MT	1,094.2	1,299.9	1,379.6	1,696.6	2,106.5
3	United Kingdom	MT	2,027.3	2,886.6	3,302.5	2,548.6	2,028.2
4	Germany(*)	MT	849.7	1,253.0	1,124.1	1,677.9	1,896.6
5	Brazil	MT	884.0	1,185.9	771.3	1,473.8	1,583.0
6	Australia(*)	MT	283.3	393.8	567.6	734.1	963.6
7	China	MT	513.7	526.1	781.2	1,155.8	953.1
8	Mexico	MT	1,302.0	1,073.2	801.2	811.7	810.4
9	Colombia	MT	513.0	582.5	673.0	607.0	558.2
10	Argentina	MT	335.3	218.4	310.0	776.6	521.1
11	Japan	MT	527.4	679.9	608.7	459.8	447.4
12	Vietnam	MT	62.8	103.9	123.4	195.0	296.3
13	Korea, South	MT	243.2	273.5	279.8	340.3	233.6
14	Peru	MT	216.3	267.6	274.4	254.1	229.1
15	New Zealand(*)	MT	50.6	47.9	108.4	87.0	188.9
16	Chile	MT	87.0	130.7	57.4	92.3	181.0
17	India	MT	64.3	58.3	104.9	80.0	142.1
18	Ecuador	MT	64.9	63.9	66.0	94.7	130.4
19	Philippines	MT	195.9	202.4	149.6	186.2	125.9
20	South Africa	MT	73.4	78.8	123.0	99.7	118.7
21	Hong Kong	MT	276.9	246.4	200.4	80.0	118.1
22	Dominican Republic	MT	65.1	108.2	125.8	95.3	98.5
23	Russia	MT	45.9	178.9	238.2	89.8	94.9
24	Panama	MT	30.8	17.3	38.4	66.6	66.4
25	Netherlands	MT	55.9	51.0	43.4	15.6	57.3
26	Ireland	MT	34.6	71.9	89.6	27.8	48.3
27	Cambodia	MT	32.2	24.0	40.3	17.5	48.0
28	Guatemala	MT	32.1	59.3	63.4	36.3	45.1
29	Thailand	MT	96.6	18.8	25.4	12.4	39.1
30	Bolivia	MT	59.1	17.2	45.7	18.4	37.7
31	El Salvador	MT	16.6	15.7	21.0	24.4	35.9
32	Czech Republic	MT	1.5	5.4	62.5	25.3	29.0
33	Taiwan	MT	0.7	5.5	4.8	32.9	28.9
34	Paraguay	MT	11.0	25.6	6.3	15.8	28.1
35	Honduras	MT	11.8	14.6	24.2	31.2	26.7
36	Malaysia	MT	11.5	12.3	13.5	16.2	21.8
37	Singapore	MT	14.8	11.9	17.1	11.5	18.9
38	Turkey	MT	12.9	15.4	17.8	26.0	18.2
39	Indonesia	MT	18.4	47.2	15.9	17.9	18.0
40	Venezuela	MT	168.6	106.8	21.0	27.3	17.2
	All Other Countries	MT	358.8	214.3	257.6	221.2	167.4
	Grand Total	MT	11,641.7	13,798.3	14,600.2	16,419.1	17,053.1

MT = 2204.6 lb.

USDA Global Agricultural Trade System. Data Source: U.S. Census Bureau Trade Data. (*) denotes a country that is a summarization of its component countries. Users should use cautious interpretation on QUANTITY reports using mixed units of measure. QUANTITY line items will only include statistics on the units of measure that are equal to, or are able to be converted to, the assigned unit of measure of the grouped commodities.

U.S. IMPORTS OF HOPS (FIVE YEARS)

Rank	Partner	UOM	2015 Qty	2016 Qty	2017 Qty	2018 Qty	2019 Qty
1	Germany(*)	MT	2,393.1	3,083.8	3,349.9	3,427.8	3,093.8
2	Australia(*)	MT	480.2	655.6	600.9	621.9	670.3
3	United Kingdom	MT	650.6	640.2	496.9	423.2	426.5
4	New Zealand(*)	MT	366.3	306.3	307.6	396.9	372.4
5	Czech Republic	MT	144.2	81.4	210.2	97.7	82.0
6	China	MT	26.3	1.7	28.4	30.7	78.8
7	South Africa	MT	1.0	11.3	31.8	5.0	43.1
8	Canada	MT	1.1	3.9	39.8	47.8	37.0
9	Sierra Leone	MT	0.0	0.0	0.0	0.0	33.7
10	France(*)	MT	53.4	21.7	54.0	21.1	29.6
11	Slovenia	MT	80.9	78.5	182.3	92.9	23.7
12	Italy(*)	MT	5.4	1.5	15.5	10.8	17.9
13	Belgium-Luxembourg(*)	MT	1.2	26.1	17.9	0.2	15.8
14	Hong Kong	MT	0.0	0.0	0.0	10.1	8.0
15	Austria	MT	0.0	0.0	0.0	0.0	6.9
16	Argentina	MT	1.7	0.0	0.0	1.0	6.7
17	Ethiopia(*)	MT	0.2	2.1	7.8	0.8	6.1
18	Poland	MT	2.7	3.6	0.0	0.0	0.4
19	Russia	MT	0.0	0.0	0.0	0.0	0.4
20	India	MT	1.3	0.0	0.0	0.0	0.0
21	Latvia	MT	0.0	3.0	0.0	0.0	0.0
22	Slovakia	MT	14.4	0.0	4.5	0.0	0.0
23	Spain	MT	2.0	0.0	0.0	0.1	0.0
	Grand Total	MT	4,225.9	4,920.7	5,347.6	5,188.1	4,953.1

MT = 2204.6 lb.

USDA Global Agricultural Trade System. Data Source: U.S. Census Bureau Trade Data. (*) denotes a country that is a summarization of its component countries. Users should use cautious interpretation on QUANTITY reports using mixed units of measure. QUANTITY line items will only include statistics on the units of measure that are equal to, or are able to be converted to, the assigned unit of measure of the grouped commodities.

WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2017-18 (MILLION HL)

Brewery	2017 Production	2017 % Share	2018 Production	2018 % Share
ABInBev	612.5	31.4%	567.0	29.8%
Heineken	218.0	11.2%	233.8	12.3%
China Res. Snow Breweries	126.0	6.5%	121.0	6.4%
Carlsberg	113.4	5.8%	112.3	5.9%
Molson-Coors	99.6	5.1%	96.6	5.1%
Tsingtao Brewery Group	78.0	4.0%	80.3	4.2%
Asahi	58.2	3.0%	57.9	3.0%
BGI/Groupe Castel	38.8	2.0%	40.5	2.1%
Yanjing	43.0	2.2%	38.0	2.0%
Efes Group	21.1	1.1%	31.8	1.7%
Top 10 total	1,387.5	71.2%	1,347.4	70.8%

The top 3 brewing groups controlled 48.5% of the market share in 2018, down from 49.1% in 2017.

The top 40 brewing groups worldwide represented 89.8% market share in 2018.

Source: Barth Report 2018-19

FOR AN INTERESTING COMPARISON, HERE IS THE RANKING FOR WORLD BEER PRODUCTION BY BREWERY (TOP 10) FOR 1988 (MILLION HL) - 31 YEARS AGO

Brewery	1988 Production	1988 % Share
Anheuser-Busch	90	7%
Miller	47	4%
Heineken	43	3%
Kirin	30	2%
Bond	30	2%
Stroh	25	2%
Elders	21	2%
Kronenbourg	20	2%
Coors	20	2%
Brahma	18	1%
Top 10 total	344	26%

WORLD BEER PRODUCTION (FIVE YEARS - MILLION HL)

Country	2015	2016	2017	2018	2019*
Germany	95.7	95.3	93.0	93.5	93.5
Russia	73.0	86.2	74.5	70.0	66.0
Great Britain	44.1	42.4	43.3	43.0	43.0
Poland	39.8	41.5	40.5	40.9	41.0
Spain	34.8	36.3	37.2	38.1	39.0
Netherlands	23.7	24.2	24.8	24.5	25.0
France	20.5	21.3	21.3	21.9	22.1
Belgium	18.3	21.3	21.9	21.5	21.8
Czech Republic	20.1	20.6	20.3	20.8	21.0
Romania	16.1	18.3	16.8	19.2	19.2
Ukraine	19.4	17.5	17.8	18.0	18.1
Italy	15.4	14.5	15.6	15.8	15.9
Austria	9.3	9.5	9.7	9.8	9.9
Turkey	9.0	9.5	9.1	9.3	9.3
Ireland	7.3	7.9	7.8	8.0	8.1
Portugal	6.5	6.4	6.7	6.7	6.8
Other Europe	63.6	65.4	69.9	67.0	67.5
Total Europe	516.6	538.1	530.2	528.0	527.2
USA	225.0	200.6	217.8	214.4	214.0
Brazil	138.0	127.2	140.0	140.0	140.0
Mexico	90.0	109.8	110.0	115.0	116.0
Colombia	22.7	22.8	21.9	22.8	22.9
Canada	22.7	20.8	22.1	22.1	22.1
Argentina	18.1	18.0	18.9	19.2	19.2
Peru	13.7	13.9	14.4	14.5	14.5
Chile	6.5	6.8	8.4	8.4	8.7
Other Americas	55.7	48.9	41.3	43.9	43.2
Total Americas	592.4	568.8	594.8	600.3	600.6
P.R. China	471.6	485.1	440.0	382.0	360.0
Japan	53.8	54.3	51.6	49.0	54.0
Vietnam	39.3	40.6	46.1	43.5	45.0
India	20.5	27.4	22.5	24.0	24.5
Philippines	17.2	17.7	19.7	23.9	24.5
South Korea	18.8	20.6	21.3	20.0	20.2
Thailand	25.5	21.8	22.0	19.5	19.8
Other Asia	72.3	58.2	62.9	68.6	70.9
Total Asia	693.5	703.9	664.1	611.0	599.1
South Africa	32.1	31.6	32.3	32.6	33.1
Nigeria	27.0	15.6	17.0	17.0	17.0
Other Africa	85.0	81.6	85.7	92.7	93.0
Total Africa	144.1	128.8	135.0	142.3	143.1
Australia	16.2	16.7	16.3	17.6	17.7
New Zealand	2.8	2.8	2.9	3.0	3.0
Oceania	1.4	1.3	1.5	1.3	1.3
Total Australia	20.4	20.9	20.7	22.3	20.8
WORLD TOTALS	1,967.1	1,960.5	1,944.8	1,903.9	1,890.8

* Estimate

Source: S.S. Steiner 2019 Guidelines for Hop Buying