



2020

STATISTICAL REPORT

RELEASED JANUARY 2021

PRESENTED BY
HOP GROWERS OF AMERICA



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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 2020, 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 3.73% in 2020, although total production fell below the 2019 crop by 7.29%. Citra[®], HBC 394 widened its lead as the US hop acreage leader, while CTZ retained the #2 spot. Cascade fell to fifth place as Mosaic[®], HBC 369 and Simcoe[®], YCR 14 took over the third and fourth place slots. Proprietary hop varieties now account for six of the top ten acreage slots.

Average yields in the Pacific Northwest fell to 1,770 pounds per acre due to severe weather challenges and heavy smoke cover during harvest, while most production regions outside of the PNW experienced average or better yields. Washington was hardest hit with a 12.56% yield reduction from 2019, followed by Idaho with 8.8% lower yields than last year. A severe storm on Labor Day brought sustained high winds, breaking many bines from the trellis and desiccating the ripe hop cones. Serious wildfires erupted as a result of this storm, blanketing much of the Pacific Northwest with heavy overcast skies and sending hop plants into early dormancy due to the lack of sunlight – causing dry cones that saw higher levels of shatter as harvest progressed. Varieties harvested prior to Labor Day had good quality and yields, but late-harvested varieties experienced severe yield loss.

2020's production decreased to 104.8 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 2,488 acres outside of the PNW yielding 1,000,000 pounds.

Washington production represented 71.4% of the Pacific Northwest, followed by Idaho with 16.6% and Oregon with 12%. The remaining states commercial hop production is estimated at one million pounds.

These states saw the loss of a number of small growers this year as local breweries reeled from the impacts of COVID impacts to on-premise sales, impacting demand for locally produced hops.

Since 2012 (9 years) US hop acreage has increased 106%, from 29,683 to 61,130 acres. During that period the variety balance shifted from roughly 50-50 alpha and aroma hops in 2012 to 77.8% aroma varieties in 2020. In 2020 alpha/bitter hop varieties represented 22.2% of US acreage.

Top 10 PNW Hop Varieties by Acreage:

Rank	2015	2016	2017	2018	2019	2020
1	Cascade	Cascade	Cascade	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394
2	CTZ	Centennial	Centennial	CTZ	CTZ	CTZ
3	Centennial	CTZ	Citra®, HBC 394	Cascade	Cascade	Mosaic®, HBC 369
4	Simcoe®, YCR 14	Citra®, HBC 394	CTZ	Centennial	Simcoe®, YCR 14	Simcoe®, YCR 14
5	Citra®, HBC 394	Simcoe®, YCR 14	Simcoe®, YCR 14	Simcoe®, YCR 14	Mosaic®, HBC 369	Cascade
6	Mosaic®, HBC 369	Mosaic®, HBC 369	Mosaic®, HBC 369	Chinook	Centennial	Centennial
7	Chinook	Chinook	Chinook	Mosaic®, HBC 369	Amarillo®, VGXP01	Pahto®, HBC 682
8	Summit	Summit	Willamette	Amarillo®, VGXP01	Chinook	Amarillo®, VGXP01
9	Willamette	Willamette	Summit	Pahto®, HBC 682	Pahto®, HBC 682	Chinook
10	Apollo™	Apollo™	Apollo™	Summit	Summit	El Dorado®

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 9 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. Additional economic impacts in 2020 resulted from COVID-related requirements for PPE, distancing workers during transport and operations, hiring additional workers to substitute for those who were sent home to quarantine if exposure was suspected, and additional staffing to accomplish worker health checks, sanitizing equipment/vehicles/tools and other surfaces. In addition, H-2A worker housing could not be utilized to its full capacity due to social distancing requirements, thereby increasing the costs for housing guest workers.

Washington State University updated the Pacific Northwest Hop Cost of Production Study in 2020, estimating the annual cost of producing mature standard trellis hops under drip irrigation in the PNW at \$13,588 per acre (including variable and fixed costs, depreciation, etc.) – see <https://www.usahops.org/growers/cost-of-production.html>.

Year	PNW Acres Harvested	PNW Production (pounds)	Yield	Value of Production (\$1,000)	Gross Return per acre*
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
2020	58,641	103,810,300	1,770	\$619,424	\$10,563

* 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					2019-20 % +/-
	2016	2017	2018	2019	2020	
ARIZONA	1.0	1.0	1.0	1.0	0.4	-60.00%
CALIFORNIA	130.0	130.0	130.0	130.0	130.0	0.00%
COLORADO	200.0	200.0	147.0	147.0	147.0	0.00%
CONNECTICUT	15.0	15.0	15.0	15.0	29.0	93.33%
IDAHO #						
Amarillo®, VGXP01	*	983.0	825.0	561.0	538.0	-4.10%
Apollo™	235.0	228.0	232.0	*	*	
Bravo™	151.0	149.0	87.0	*	*	
Calypso	81.0	81.0	81.0	81.0	*	
Cascade	788.0	882.0	836.0	710.0	407.0	-42.68%
Cashmere	*	*	*	*	125.0	
Centennial	*	255.0	*	*	*	
Chinook	418.0	699.0	962.0	786.0	624.0	-20.61%
Citra®, HBC 394	576.0	759.0	855.0	973.0	1,527.0	56.94%
Cluster	*	*	63.0	*	*	
Columbus/Tomahawk®/Zeus	580.0	1,061.0	1,496.0	1,602.0	1,457.0	-9.05%
Comet	*	*	*	112.0	93.0	-16.96%
Crystal	123.0	182.0	150.0	131.0	*	
El Dorado®	227.0	219.0	120.0	352.0	526.0	49.43%
Eureka!™	*	*	133.0	185.0	*	
Galena	*	*	109.0	113.0	*	
Hallertauer	*	*	*	25.0	159.0	536.00%
Idaho 7™	*	*	*	388.0	564.0	45.36%
Mosaic®, HBC 369	496.0	500.0	506.0	801.0	1,186.0	48.06%
Northern Brewer	*	*	*	57.0	58.0	1.75%
Saaz	*	*	*	140.0	*	
Simcoe®, YCR 14	232.0	394.0	449.0	469.0	425.0	-9.38%
Super Galena™	69.0	*	84.0	*	*	
Triumph	*	*	*	*	39.0	
Willamette	*	128.0	*	170.0	*	
Experimental	9.0	26.0	*	*	*	
Other Varieties	1,663.0	579.0	1,152.0	702.0	1,540.0	119.37%
TOTAL IDAHO #	5,648.0	7,125.0	8,140.0	8,358.0	9,268.0	10.89%
ILLINOIS	30.0	30.0	30.0	30.0	30.0	0.00%
INDIANA	50.0	50.0	50.0	50.0	100.0	100.00%
IOWA	40.0	60.0	60.0	60.0	60.0	0.00%
KENTUCKY	20.0	30.0	12.0	12.0	18.0	50.00%
MAINE	24.0	24.0	24.0	24.0	24.0	0.00%
MARYLAND	15.0	20.0	20.0	20.0	20.0	0.00%
MASSACHUSETTS	25.0	25.0	30.0	30.0	30.0	0.00%
MICHIGAN	650.0	810.0	750.0	720.0	700.0	-2.78%
MINNESOTA	73.0	120.0	120.0	122.0	40.0	-67.21%
MONTANA	12.0	17.0	36.0	36.0	173.0	380.56%
NEBRASKA	24.0	39.0	44.0	46.5	49.0	5.38%
NEW HAMPSHIRE	2.0	2.0	2.0	2.0	2.0	0.00%
NEW JERSEY	15.0	15.0	15.0	15.0	15.0	0.00%
NEW YORK	300.0	400.0	400.0	400.0	400.0	0.00%
NORTH CAROLINA	30.0	30.0	30.0	35.0	25.0	-28.57%
NORTH DAKOTA	2.0	3.5	3.5	3.5	3.5	0.00%
OHIO	70.0	100.0	70.0	85.0	85.0	0.00%
OREGON #						
Amarillo®, VGXP01	*	*	*	212.0	216.0	1.89%
Cascade	1,211.0	1,247.0	1,064.0	1,039.0	754.0	-27.43%
Centennial	723.0	789.0	698.0	614.0	489.0	-20.36%
Chinook	107.0	124.0	129.0	114.0	86.0	-24.56%
Citra®, HBC 394	654.0	766.0	690.0	998.0	1,327.0	32.97%
Crystal	423.0	407.0	354.0	247.0	*	
Fuggle	141.0	86.0	59.0	63.0	*	
Golding	*	215.0	121.0	92.0	*	
Hallertau Magnum	151.0	47.0	105.0	*	*	
Liberty	*	*	*	*	56.0	
Mosaic®, HBC 369	*	337.0	*	478.0	595.0	24.48%
Mt. Hood	324.0	318.0	311.0	295.0	159.0	-46.10%
Nugget	1,460.0	1,467.0	1,307.0	1,059.0	826.0	-22.00%
Perle	*	76.0	77.0	*	*	
Sabro™, HBC 438	*	*	*	*	74.0	
Simcoe®, YCR 14	330.0	461.0	436.0	440.0	474.0	7.73%
Sterling	228.0	227.0	191.0	147.0	58.0	-60.54%
Strata™, OR 91331	*	*	*	253.0	484.0	91.30%
Super Galena™	*	67.0	84.0	78.0	87.0	11.54%
Tettnanger	122.0	72.0	72.0	*	*	
Willamette	833.0	892.0	913.0	619.0	605.0	-2.26%
Other Varieties	1,058.0	618.0	1,114.0	558.0	814.0	45.88%
TOTAL OREGON #	7,765.0	8,216.0	7,725.0	7,306.0	7,104.0	-2.76%

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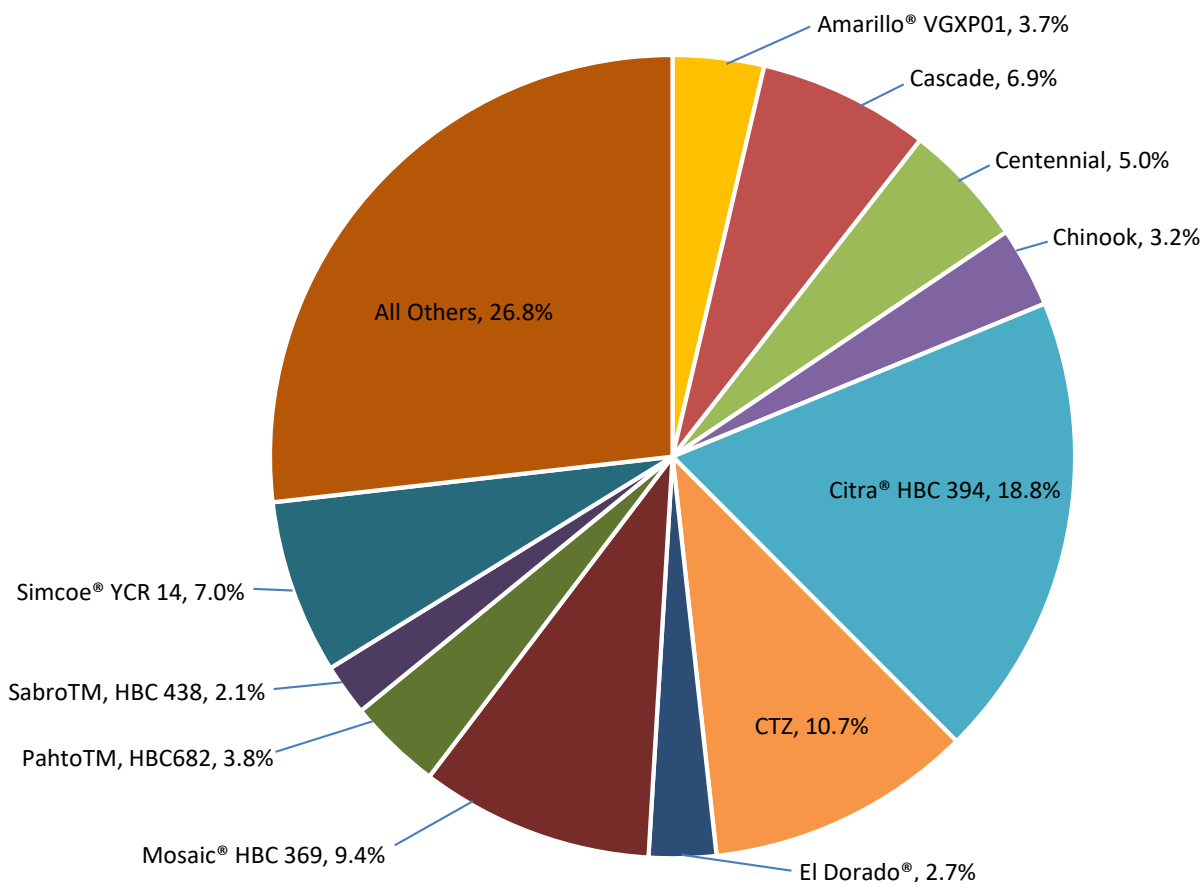
STATE & VARIETY	ACRES HARVESTED					2019-20
	2016	2017	2018	2019	2020	% +/-
PENNSYLVANIA	15.0	20.0	30.0	50.0	40.0	-20.00%
RHODE ISLAND	10.0	10.0	10.0	10.0	10.0	0.00%
VERMONT	25.0	25.0	25.0	25.0	40.0	60.00%
VIRGINIA	30.0	30.0	30.0	30.0	20.0	-33.33%
WASHINGTON #						
Ahtanum™, YCR 1	155.0	371.0	255.0	261.0	230.0	-11.88%
Amarillo®, VGXP01	*	1,984.0	1,895.0	1,597.0	1,395.0	-12.65%
Apollo™	735.0	684.0	795.0	851.0	750.0	-11.87%
Azacca™, ADHA-483	506.0	578.0	546.0	589.0	722.0	22.58%
Bravo™	573.0	486.0	280.0	236.0	201.0	-14.83%
Cascade	5,582.0	4,966.0	4,274.0	3,718.0	2,877.0	-22.62%
Cashmere	*	*	195.0	310.0	448.0	44.52%
Centennial	4,359.0	4,375.0	3,875.0	3,031.0	2,444.0	-19.37%
Chinook	1,415.0	1,632.0	1,734.0	1,437.0	1,183.0	-17.68%
Citra®, HBC 394	3,264.0	3,715.0	4,837.0	6,720.0	8,143.0	21.18%
Cluster	623.0	621.0	610.0	470.0	413.0	-12.13%
Columbus/Tomahawk®/Zeus	3,918.0	3,873.0	4,626.0	4,935.0	4,829.0	-2.15%
Comet	163.0	205.0	218.0	210.0	330.0	57.14%
Crystal	191.0	122.0	114.0	66.0	*	
Ekuanot™, HBC 366	*	890.0	865.0	632.0	641.0	1.42%
El Dorado®	396.0	463.0	418.0	641.0	1,058.0	65.05%
Eureka!™	*	362.0	409.0	425.0	465.0	9.41%
Galena	262.0	378.0	390.0	297.0	241.0	-18.86%
Glacier	145.0	*	*	*	*	
Idaho 7™	*	*	*	85.0	341.0	301.18%
Jarrylo™, ADHA-881	131.0	*	*	*	17.0	
Loral™, HBC 291	*	186.0	172.0	125.0	164.0	31.20%
Mosaic®, HBC 369	2,029.0	1,877.0	1,932.0	2,829.0	3,715.0	31.32%
Mt. Hood	88.0	87.0	104.0	53.0	48.0	-9.43%
Mt. Rainier	*	*	306.0	239.0	223.0	-6.69%
Nugget	186.0	125.0	126.0	104.0	*	
Pahto™, HBC 682	*	*	1,721.0	2,109.0	2,208.0	4.69%
Palisade®, YCR-4	580.0	571.0	515.0	477.0	246.0	-48.43%
Pekko™, ADHA-871	*	*	92.0	*	801.0	
Sabro™, HBC 438	*	*	*	724.0	1,145.0	
Simcoe®, YCR 14	3,769.0	3,753.0	3,103.0	3,367.0	3,214.0	-4.54%
Sorachi Ace	*	*	146.0	*	*	
Summit™	1,769.0	1,617.0	1,574.0	1,072.0	640.0	-40.30%
Super Galena™	310.0	435.0	500.0	473.0	475.0	0.42%
Tahoma	*	217.0	209.0	230.0	177.0	-23.04%
Tettnanger	*	38.0	*	*	*	
Warrior®, YCR 5	*	*	*	*	283.0	
Willamette	728.0	571.0	376.0	270.0	203.0	-24.81%
Experimental	567.0	421.0	374.0	360.0	453.0	25.83%
Other Varieties	5,000.0	3,045.0	1,584.0	1,937.0	1,546.0	-20.19%
TOTAL WASHINGTON #	37,444.0	38,648.0	39,170.0	40,880.0	42,269.0	3.40%
WISCONSIN	297.0	297.0	297.0	297.0	297.0	0.00%
TOTAL PACIFIC NORTHWEST	50,857.0	53,989.0	55,035.0	56,544.0	58,641.0	3.71%
TOTAL NON-PNW US	2,106.0	2,503.5	2,433.0	2,386.0	2,488.5	4.30%
TOTAL UNITED STATES	52,963.0	56,492.5	57,468.0	58,930.0	61,129.5	3.73%

SOURCE: USDA-NASS 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	2015	2016	2017	2018	2019	2020
1	Cascade (6,790)	Cascade (7,581)	Cascade (7,175)	Citra®, HBC 394 (6,652)	Citra®, HBC 394 (9,035)	Citra®, HBC 394 (10,997)
2	CTZ (5,323)	Centennial (5,082)	Centennial (5,534)	CTZ (6,102)	CTZ (6,539)	CTZ (6,286)
3	Centennial (4,401)	CTZ (4,498)	Citra®, HBC 394 (5,284)	Cascade (6,009)	Cascade (5,280)	Mosaic®, HBC 369 (5,496)
4	Simcoe®, YCR 14 (3,306)	Citra®, HBC 394 (4,494)	CTZ (4,952)	Centennial (4,864)	Simcoe®, YCR 14 (4,365)	Simcoe®, YCR 14 (4,113)
5	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)	Cascade (4,038)
6	Mosaic®, HBC 369 (1,800)	Mosaic®, HBC 369 (2,525)	Mosaic®, HBC 369 (2,773)	Chinook (2,839)	Centennial (3,680)	Centennial (2,933)
7	Chinook (1,787)	Chinook (1,940)	Chinook (2,429)	Mosaic®, HBC 369 (2,768)	Amarillo®, VGXP01 (2,369)	Pahto®, HBC 682 (2,208)
8	Summit (1,620)	Summit (1,769)	Willamette (1,657)	Amarillo®, VGXP01 (2,734)	Chinook (2,368)	Amarillo®, VGXP01 (2,149)
9	Willamette (1,359)	Willamette (1,561)	Summit (1,616)	Pahto®, HBC 682 (1,659)	Pahto®, HBC 682 (2,150)	Chinook (1,893)
10	Apollo™ (994)	Apollo™ (970)	Apollo™ (912)	Summit (1,574)	Summit (1,072)	El Dorado® (1,584)
	Top Ten 30,373	Top Ten 34,751	Top Ten 36,930	Top Ten 39,117	Top Ten 41,083	Top Ten 41,697
	Other 14,537	Other 18,212	Other 18,670	Other 15,918	Other 15,461	Other 16,944
	Total 44,910	Total 52,963	Total 55,600	Total 55,035	Total 56,544	Total 58,641
	Top Ten 67.6%	Top Ten 71.28%	Top Ten 66.4%	Top Ten 71%	Top Ten 72.65%	Top Ten 71.1%

MAJOR PNW HOP VARIETIES – 2020 (% of acreage)



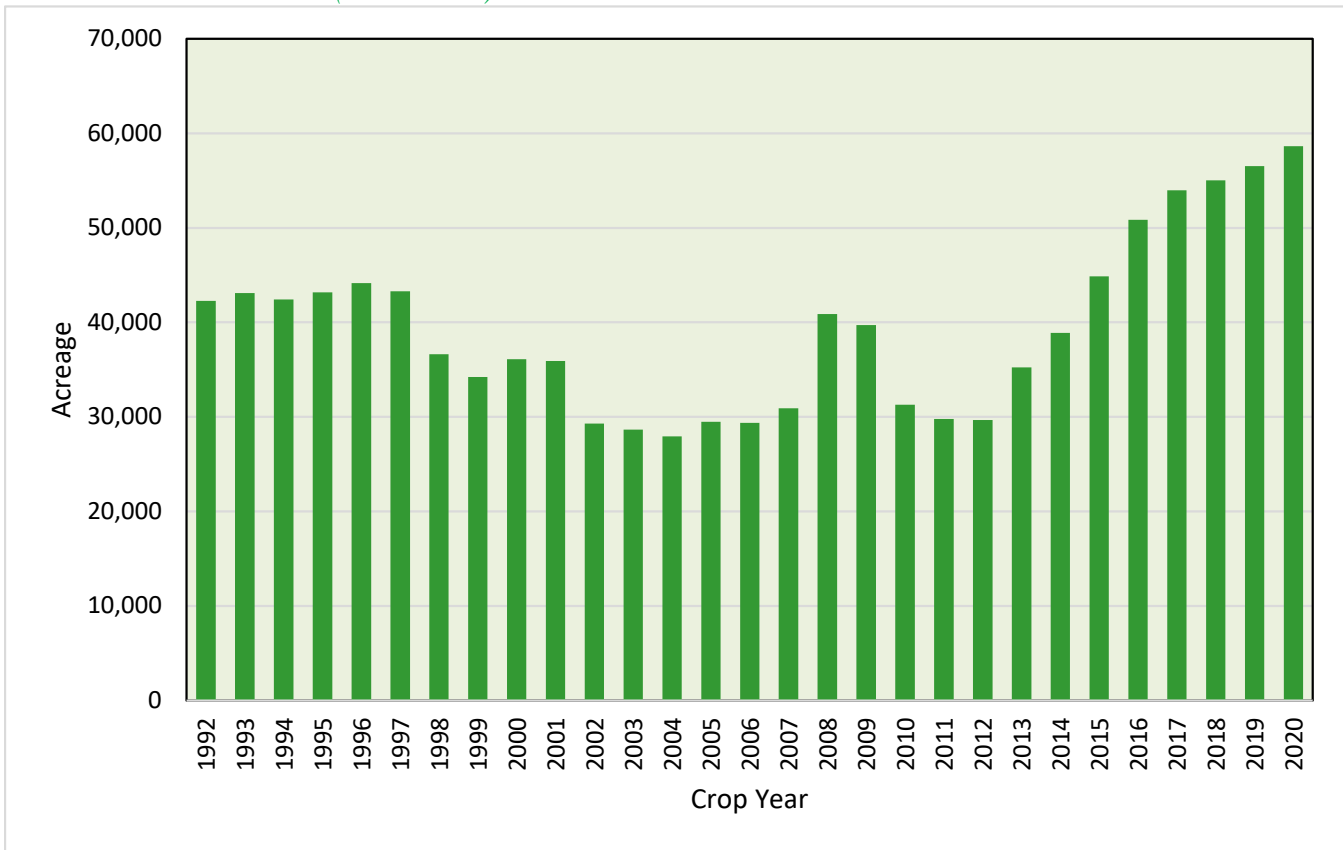
SOURCE: USDA-NASS. Prepared by HGA.

PACIFIC NORTHWEST HOP ACREAGE BY STATE (10 YEARS)

YEAR	ACREAGE HARVESTED			TOTAL
	WASHINGTON	OREGON	IDAHO	
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
2020	42,269	7,104	9,268	58,641

SOURCE: USDA-NASS. Prepared by HGA.

US HOP ACREAGE (1992-2020)



SOURCE: USDA-NASS and HGA Hop Acreage Reports

HOP YIELDS BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2019-20
	2016	2017	2018	2019	2020	% +/-
IDAHO						
Amarillo®, VGXP01	*	1,569	2,009	1,560	1,576	1.03%
Apollo™	1,893	1,798	1,951	*	*	
Bravo™	2,359	2,799	2,226	*	*	
Calypso™	1,937	2,159	2,138	1,901	*	
Cascade	1,585	1,771	1,716	1,823	1,213	-33.46%
Cashmere	*	*	*	*	1,578	
Centennial	*	2,028	*	*	*	
Chinook	1,712	1,665	1,873	2,215	1,614	-27.13%
Citra®, HBC 394	1,213	1,657	1,415	1,532	1,686	10.05%
Cluster	*	*	2,126	*	*	
Columbus/Tomahawk®/Zeus	*	*	*	3,002	2,673	-10.96%
Comet	*	*	*	1,970	1,740	-11.68%
Crystal	1,678	2,084	1,927	1,971	*	
El Dorado®	1,658	2,163	1,463	1,352	1,590	17.60%
Eureka!™	*	*	2,299	2,243	*	
Galena	*	*	1,715	1,773	*	
Hallertauer	*	*	*	1,253	614	-51.00%
Idaho 7™	*	*	*	2,562	2,442	-4.68%
Mosaic®, HBC 369	2,204	2,581	2,333	2,296	2,335	1.70%
Northern Brewer	*	*	*	1,407	1,432	1.78%
Saaz	*	*	*	771	*	
Simcoe®, YCR 14	1,335	1,494	1,245	1,164	992	-14.78%
Super Galena™	1,872	*	2,493	*	*	
Triumph	*	*	*	*	365	
Willamette	*	1,689	*	1,695	*	
Zeus	2,761	2,756	2,764	2,672	*	
Experimental	1,000	611	*	*	*	
Other Varieties ²	1,174	1,929	1,845	1,971	1,567	-20.50%
Total Idaho¹	1,646	1,974	1,995	2,034	1,855	-8.80%
OREGON						
Amarillo®, VGXP01	*	*	*	2,312	2,360	2.08%
Cascade	1,597	1,425	1,623	1,620	1,639	1.17%
Centennial	1,235	1,273	1,277	1,661	1,675	0.84%
Chinook	1,675	1,667	1,674	1,733	1,481	-14.54%
Citra®, HBC 394	1,047	1,475	1,600	1,476	1,506	2.03%
Crystal	2,216	1,772	1,819	1,943	*	
Fuggle	1,021	1,251	1,034	1,243	*	
Golding	*	1,181	1,160	1,351	*	
Hallertau Magnum	1,493	1,714	1,284	*	*	
Liberty	*	*	*	*	2,289	
Mosaic®, HBC 369	*	1,875	*	2,113	2,155	1.99%
Mt. Hood	1,463	1,439	1,411	1,538	1,551	0.85%
Nugget	1,925	1,820	1,946	2,130	1,841	-13.57%
Perle	*	1,164	1,093	*	*	
Sabro™, HBC 438	*	*	*	*	870	
Simcoe®, YCR 14	1,969	1,421	1,588	1,845	1,823	-1.19%
Sterling	1,626	1,407	1,760	1,643	1,728	5.17%
Strata™ OR 91331	*	*	*	2,066	2,068	0.10%
Super Galena™	*	2,096	2,216	2,580	2,801	8.57%
Tettnanger	1,193	1,013	1,027	*	*	
Willamette	1,573	1,324	1,484	1,717	1,857	8.15%
Other Varieties ²	1,546	1,573	2,068	1,644	1,479	-10.04%
Total Oregon	1,596	1,518	1,675	1,783	1,755	-1.57%

(continued next page)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2019-20
	2016	2017	2018	2019	2020	% +/-
WASHINGTON						
Ahtanum™, YCR 1	1,012	1,052	2,730	2,820	2,134	-24.33%
Amarillo®, VGXP01	*	1,687	1,868	1,946	1,649	-15.26%
Apollo™	2,225	2,729	2,848	2,735	2,248	-17.81%
Azacca™, ADHA-483	1,870	2,463	2,491	2,441	1,527	-37.44%
Bravo™	2,671	2,973	3,258	3,216	2,308	-28.23%
Cascade	1,727	2,124	1,972	1,920	1,551	-19.22%
Cashmere	*	*	1,519	1,699	1,514	-10.89%
Centennial	1,355	1,703	1,364	1,820	1,640	-9.89%
Chinook	1,420	1,784	1,875	1,942	1,665	-14.26%
Citra®, HBC 394	1,543	1,748	1,611	1,424	1,526	7.16%
Cluster	1,700	1,937	1,813	1,815	2,065	13.77%
Columbus/Tomahawk®/Zeus	1,969	2,646	2,482	2,584	2,176	-15.79%
Comet	949	1,855	1,750	1,311	872	-33.49%
Crystal	1,475	2,063	2,357	1,989	*	
Ekuanot™, HBC 366	*	2,740	2,583	2,483	2,158	-13.09%
El Dorado®	1,904	1,946	1,880	2,032	1,516	-25.39%
Eureka!™	*	2,244	2,954	3,188	2,332	-26.85%
Galena	1,692	2,134	2,149	2,045	1,838	-10.12%
Glacier	1,168	*	*	*	*	
Idaho 7™	*	*	*	1,544	1,736	12.44%
Jarrylo™, ADHA-881	1,408	*	*	*	1,428	
Loral™, HBC 291	*	2,295	2,349	2,515	1,874	-25.49%
Mosaic®, HBC 369	2,326	2,439	2,351	2,054	1,998	-2.73%
Mt. Hood	1,075	1,043	1,454	1,037	1,139	9.84%
Mt. Rainier	*	*	1,899	2,149	1,586	-26.20%
Nugget	1,774	1,950	1,498	2,313	*	
Pahto™, HBC 682	*	*	2,087	2,398	2,019	-15.80%
Palisade®, YCR-4	2,228	2,209	2,441	2,520	2,114	-16.11%
Pekko™, ADHA-871	*	*	1,889	*	1,239	
Sabro™, HBC 438	*	*	*	1,612	1,886	17.00%
Simcoe®, YCR 14	1,673	1,792	1,642	1,788	1,643	-8.11%
Sorachi Ace	*	*	1,042	*	*	
Summit™	1,648	2,067	1,826	1,816	1,096	-39.65%
Super Galena™	2,501	2,647	3,133	2,871	2,636	-8.19%
Tahoma	*	1,752	2,147	1,958	1,588	-18.90%
Tettnanger	*	1,202	*	*	*	
Warrior®, YCR 5	*	*	*	*	1,669	
Willamette	1,277	1,446	1,348	1,596	1,458	-8.65%
Zeus	2,469	3,088	2,619	2,620	*	
Experimental	1,592	1,901	1,889	2,251	1,207	-46.38%
Other Varieties ²	1,662	1,746	1,896	1,888	1,737	-8.00%
Total Washington	1,748	2,047	1,984	2,006	1,754	-12.56%
Total Pacific Northwest	1,713	1,959	1,943	1,981	1,770	-10.65%

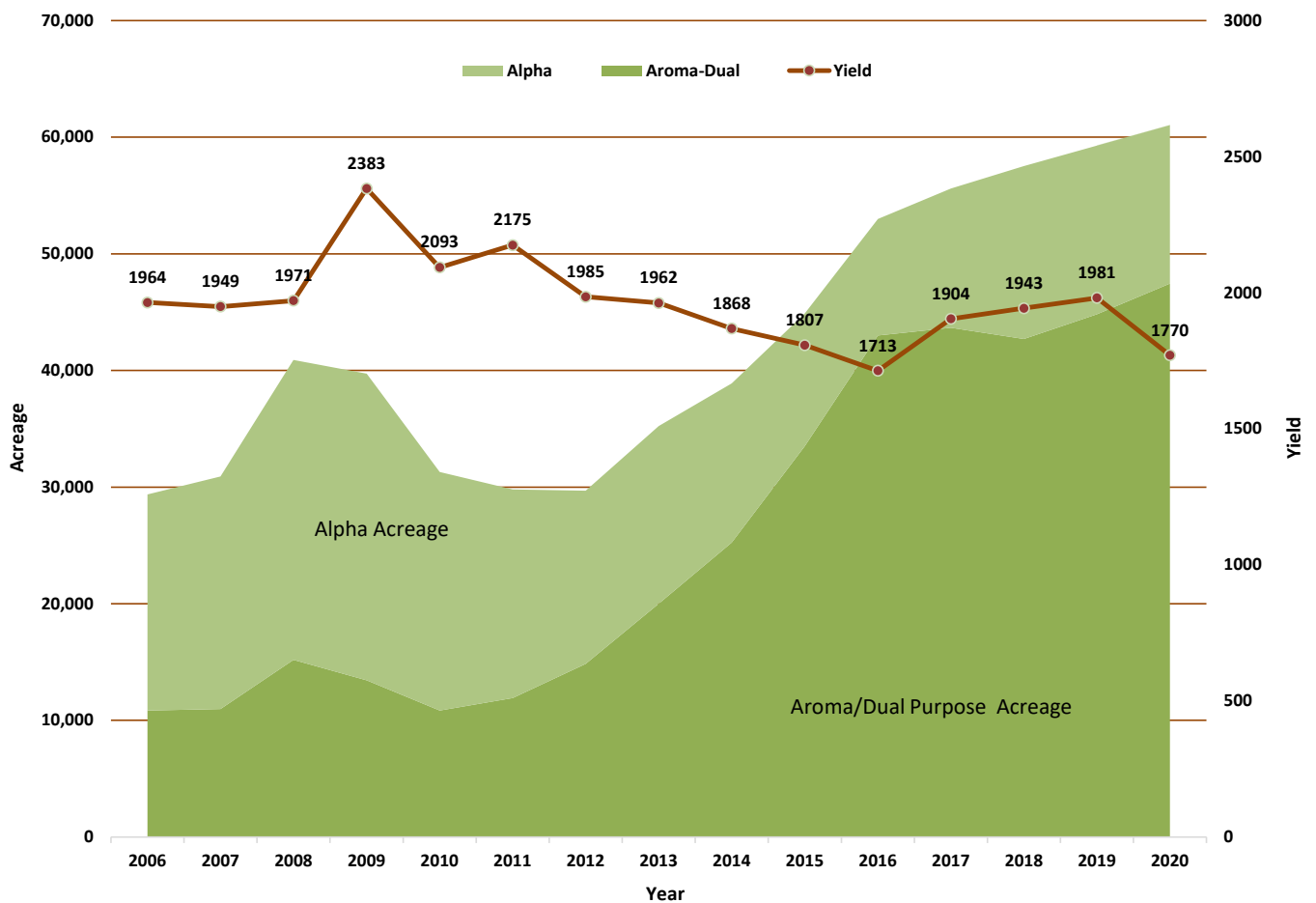
SOURCE: USDA-NASS. Prepared by HGA. State and variety yields for production outside of the Pacific Northwest are not reported. "Other Varieties" includes data to avoid disclosure of individual operations.

PACIFIC NORTHWEST AVERAGE HOP YIELD (TEN YEARS)

YEAR	POUNDS PER ACRE			
	WASHINGTON	OREGON	IDAHO	TOTAL
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
2020	1,754	1,755	1,855	1,770

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)					2019-20
	2016	2017	2018	2019	2020	% +/-
IDAHO						
Amarillo [®] , VGXP01	*	1,542,300	1,657,400	875,200	847,900	-3.12%
Apollo [™]	444,900	409,900	452,600	*	*	
Bravo [™]	356,200	417,100	193,700	*	*	
Calypso [™]	156,900	174,900	173,200	154,000	*	
Cascade	1,248,900	1,562,000	1,434,600	1,294,300	493,700	-61.86%
Cashmere	*	*	*	*	197,300	
Centennial	*	517,100	*	*	*	
Chinook	715,500	1,163,800	1,801,800	1,741,000	1,007,100	-42.15%
Citra [®] , HBC 394	698,500	1,257,700	1,229,500	1,490,600	2,574,500	72.72%
Cluster	*	*	133,900	*	*	
Columbus/Tomahawk [®] /Zeus	1,601,100	2,924,100	4,134,900	4,607,600	3,894,600	-15.47%
Comet	*	*	*	220,600	161,800	-26.65%
Crystal	206,400	379,300	289,100	258,200	*	
El Dorado [®]	376,300	473,700	175,600	475,900	836,300	75.73%
Eureka! [™]	*	*	305,800	415,000	*	
Galena	*	*	186,900	200,300	*	
Hallertauer	*	*	*	31,300	97,600	
Idaho 7 [™]	*	*	*	994,100	1,377,300	38.55%
Mosaic [®] , HBC 369	1,093,400	1,290,500	1,180,500	1,839,100	2,769,300	50.58%
Northern Brewer	*	*	*	80,200	83,100	3.62%
Saaz	*	*	*	107,900	*	
Simcoe [®] , YCR 14	309,800	588,600	559,000	545,900	421,600	-22.77%
Super Galena [™]	129,200	*	209,400	*	*	
Triumph	*	*	*	*	14,200	
Willamette	*	216,200	*	288,200	*	
Experimental	9,000	15,900	*	*	*	
Other Varieties	1,951,600	1,134,200	2,124,900	1,383,700	2,413,800	74.45%
Total Idaho	9,297,700	14,067,300	16,242,800	17,003,100	17,190,100	1.10%
OREGON						
Amarillo [®] VGXP01	*	*	*	490,100	509,800	
Cascade	1,934,500	1,777,000	1,726,900	1,683,200	1,235,800	-26.58%
Centennial	893,200	1,004,400	891,300	1,019,900	819,100	-19.69%
Chinook	179,200	206,700	215,900	197,600	127,400	-35.53%
Citra [®] , HBC 394	684,700	1,129,900	1,104,000	1,473,000	1,998,500	35.68%
Crystal	937,200	721,200	643,900	479,900	*	
Fuggle	143,900	107,600	61,000	78,300	*	
Golding	*	253,900	140,400	124,300	*	
Hallertau Magnum	225,500	80,600	134,800	*	*	
Liberty	*	*	*	*	128,200	
Mosaic [®] , HBC 369	*	631,900	*	1,010,000	1,282,200	26.95%
Mt. Hood	473,900	457,600	438,800	453,700	246,600	-45.65%
Nugget	2,810,900	2,669,900	2,543,400	2,255,700	1,520,700	-32.58%
Perle	*	88,500	84,200	*	*	
Sabro [™] , HBC 438	*	*	*	*	64,400	
Simcoe [®] , YCR 14	649,900	655,100	692,400	811,800	864,100	6.44%
Sterling	370,800	319,400	336,200	241,500	100,200	-58.51%
Strata [™] OR 91331	*	*	*	522,700	1,000,900	
Super Galena [™]	*	140,400	186,100	201,200	243,700	21.12%
Tettnanger	145,600	72,900	73,900	*	*	
Willamette	1,310,000	1,181,000	1,359,500	1,062,800	1,123,500	5.71%
Other Varieties	1,636,000	972,400	2,303,500	917,500	1,203,600	31.18%
Total Oregon	12,395,300	12,470,400	12,936,200	13,023,200	12,468,700	-4.26%

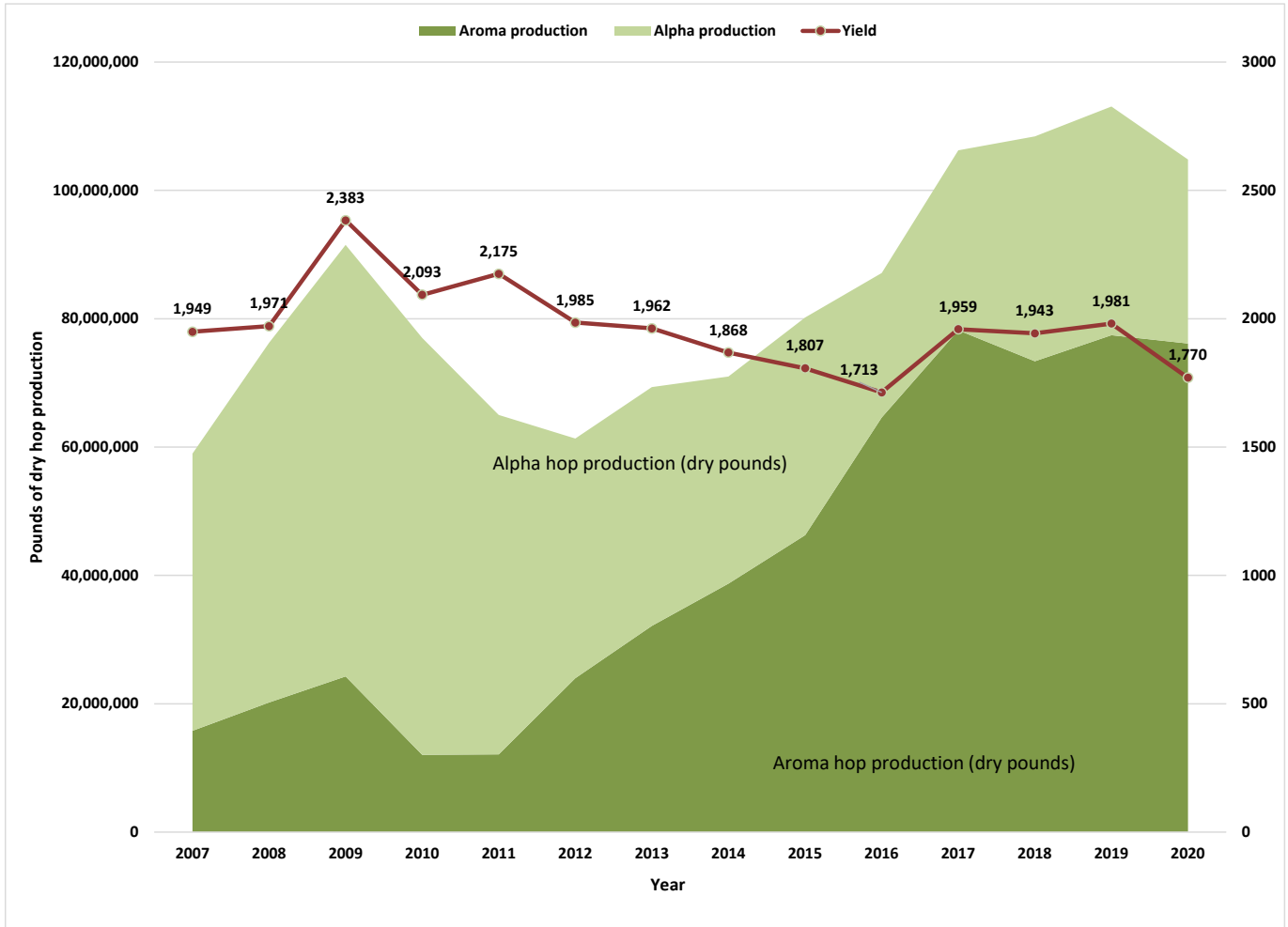
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STATE & VARIETY	HOP PRODUCTION (POUNDS)					2019-20
	2016	2017	2018	2019	2020	% +/-
WASHINGTON						
Ahtanum	156,900	390,300	696,200	736,000	490,800	-33.32%
Amarillo [®] , VGXP01	*	3,347,000	3,539,900	3,107,800	2,300,400	-25.98%
Apollo [™]	1,635,600	1,866,600	2,264,200	2,327,500	1,686,000	-27.56%
Azacca [™] , ADHA-483	946,400	1,423,600	1,360,100	1,437,700	1,102,500	-23.32%
Bravo [™]	1,530,500	1,444,900	912,200	759,000	463,900	-38.88%
Cascade	9,638,800	10,547,800	8,428,300	7,138,600	4,462,200	-37.49%
Cashmere	*	*	296,200	526,700	678,300	28.78%
Centennial	5,908,600	7,450,600	5,285,500	5,516,400	4,008,200	-27.34%
Chinook	2,008,900	2,911,500	3,251,300	2,790,700	1,969,700	-29.42%
Citra [®] , HBC 394	5,035,000	6,493,800	7,792,400	9,569,300	12,426,200	29.85%
Cluster	1,058,800	1,202,900	1,105,900	853,100	852,800	-0.04%
Columbus/Tomahawk [®] /Zeus	8,966,400	11,226,500	11,836,800	12,846,000	10,507,900	-18.20%
Comet	154,700	380,300	381,500	275,300	287,800	4.54%
Crystal	281,700	251,700	268,700	131,300	*	
Ekuanot [™] , HBC 366	*	2,438,600	2,234,300	1,569,300	1,383,300	-11.85%
El Dorado [®]	754,000	901,000	785,800	1,302,500	1,603,900	23.14%
Eureka! [™]	*	812,300	1,208,200	1,354,900	1,084,400	-19.96%
Galena	443,300	806,700	838,100	607,400	443,000	-27.07%
Glacier	169,300	*	*	*	*	
Idaho 7 [™]	*	*	*	131,200	592,000	351.22%
Jarrylo [™] , ADHA-881	184,400	*	*	*	24,300	
Loral [™] , HBC 291	*	426,900	404,000	314,400	307,300	-2.26%
Mosaic [®] , HBC 369	4,720,400	4,578,000	4,542,100	5,810,800	7,422,600	27.74%
Mt. Hood	94,600	90,700	151,200	55,000	54,700	-0.55%
Mt. Rainier	*	*	581,100	513,600	353,700	-31.13%
Nugget	330,000	243,800	188,700	240,600	*	
Pahto [™] , HBC 682	*	*	3,591,700	5,057,400	4,458,000	-11.85%
Palisade [®] , YCR-4	1,292,500	1,261,300	1,257,100	1,202,000	520,000	-56.74%
Pekko [™] , ADHA-871	*	*	173,800	*	992,400	
Sabro [™] , HBC 438	*	*	*	1,167,100	2,159,500	85.03%
Simcoe [®] , YCR 14	6,305,100	6,725,400	5,095,100	6,020,200	5,280,600	-12.29%
Sorachi Ace	*	*	152,100	*	*	
Summit [™]	2,914,500	3,342,300	2,874,100	1,946,800	701,400	-63.97%
Super Galena [™]	775,300	1,151,400	1,566,500	1,358,000	1,252,100	-7.80%
Tahoma	*	380,200	448,700	450,300	281,100	-37.57%
Tettnanger	*	45,700	*	*	*	
Warrior [®] , YCR 5	*	*	*	*	472,300	
Willamette	929,300	825,700	506,800	430,900	296,000	-31.31%
Experimental	902,700	800,300	706,500	810,400	546,800	-32.53%
Other Varieties	8,308,900	5,316,000	3,002,600	3,656,700	2,685,400	-26.56%
Total Washington	65,446,600	79,083,800	77,727,700	82,014,900	74,151,500	-9.59%
Total Pacific Northwest	87,139,600	105,621,500	106,906,700	112,041,200	103,810,300	-7.35%
Other States Estimate ¹	1,500,000	1,875,000	1,500,000	1,000,000	1,000,000	0.00%
Total US Estimate	88,639,600	107,496,500	108,406,700	113,041,200	104,810,300	-7.28%

SOURCE: USDA-NASS. 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



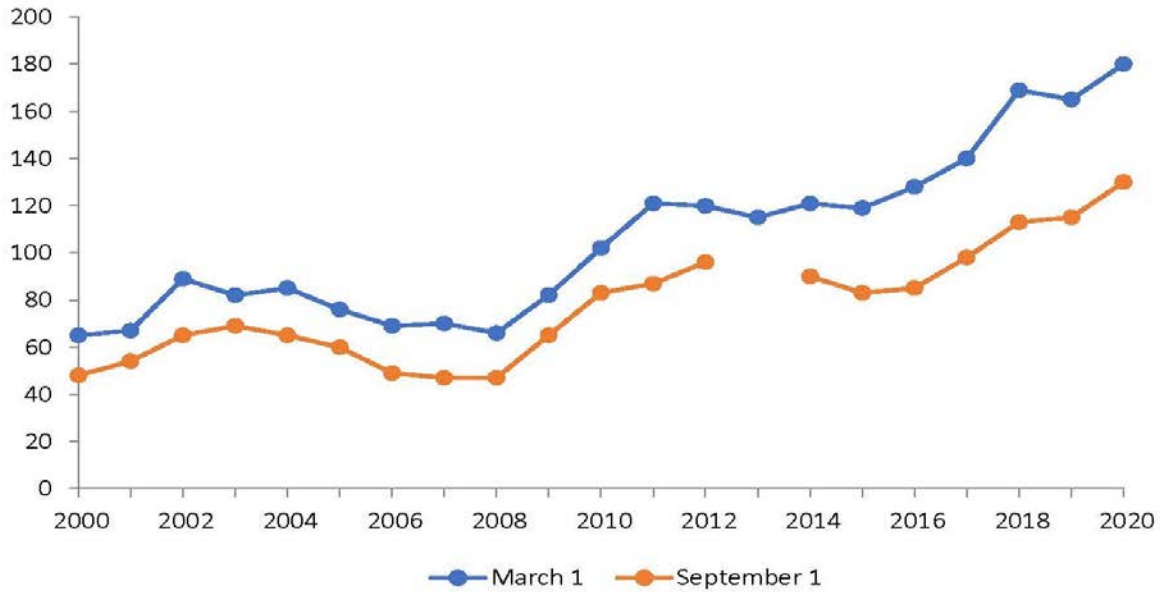
U.S. HOPS: ESTIMATED SEASON AVERAGE PRICE & TOTAL CROP VALUE

Marketing Year	SEASON AVERAGE PRICE				PNW	Total Crop
	Washington	Oregon	Idaho	U.S.	Production	Value
	----- (\$ / pound) -----				(Lbs. x 1,000)	(x 1,000)
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
2020	\$6.00	\$6.00	\$5.80	\$5.97	103,810	\$619,424

SOURCE: USDA-NASS. Prepared by HGA.

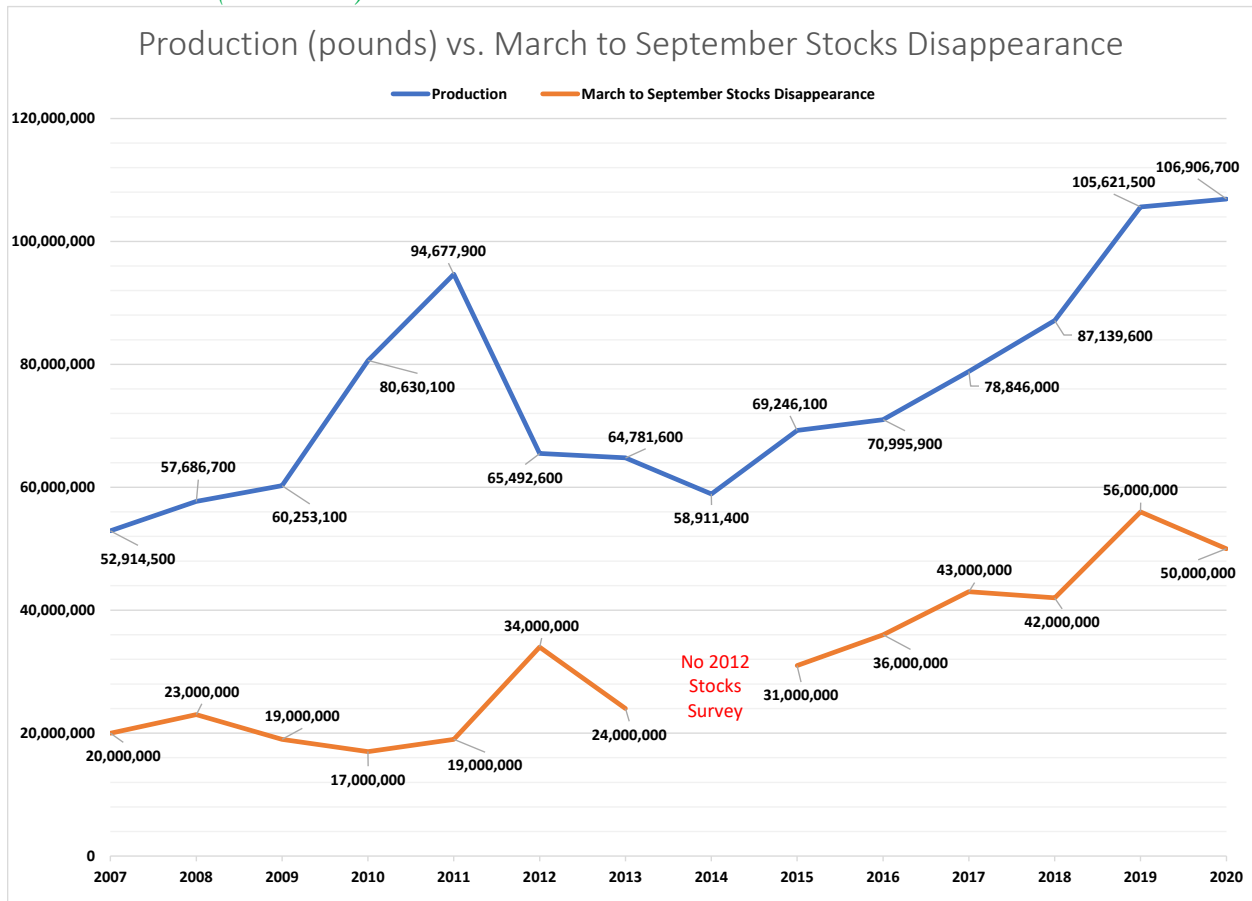
U.S. HOPS STOCKS

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.

PRODUCTION (POUNDS) VS. MARCH TO SEPTEMBER STOCKS DISAPPEARANCE



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.

2020 HOP INSPECTION REPORT

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
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
2020	377,543	61,291	86,619	525,453

	0%	1%	2%	3%	4%	5%	6%	7%	TOTAL	AVERAGE
WA	285,323	82,606	8,127	1,348	78	61	0	0	377,543	0.27%
OR	58,702	2,563	26	0	0	0	0	0	61,291	0.04%
ID	57,054	25,618	3,827	120	0	0	0	0	86,619	0.39%
Total	401,079	110,787	11,980	1,468	78	61	0	0	525,453	0.27%
% of Total	76%	21%	2%	0%	0%	0%	0%	0%	100%	

	0%	1%	2%	3%	4%	5%	6%	7+%	TOTAL	AVERAGE
WA	252,701	70,416	33,687	12,406	4,877	1,420	1,384	652	377,543	0.57%
OR	34,475	9,005	6,587	3,169	2,150	2,886	1,079	1,940	61,291	1.22%
ID	61,792	8,964	6,720	3,351	1,978	1,008	1,342	1,464	86,619	0.74%
Total	348,968	88,385	46,994	18,926	9,005	5,314	3,805	4,056	525,453	0.67%
% of Total	66%	17%	9%	4%	2%	1%	1%	1%	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
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%
2018	0.37%	0.16%	0.78%	0.41%	0.48%
2019	0.29%	0.39%	0.38%	0.37%	1.19%
2020	0.27%	0.04%	0.39%	0.27%	0.67%

SOURCE: State Hop Inspection Labs. Prepared by HGA.

2020 US-GROWN HOP VARIETY CODES (INTERNATIONALLY HARMONIZED)

Brand/Variety	Code	Brand/Variety	Code
Adeena™ (ADHA-1940)	ADA	Lotus™	LOT
Ahtanum® Brand YCR 1	AHT	Medusa™	MED
Alpharoma	AAA	Meridian	MER
Altus™	ATS	Millennium	MLM
Amarillo®, VGXP01	VG1	Mosaic® Brand HBC 369	MOS
Apollo™	APO	Mt. Hood	MTH
Aquila	AQU	Mt. Rainier	MTR
Azacca®, ADHA-483	AZA	Newport	NWP
Banner	BAN	Northern Brewer	NBR
Belma	BEL	Nugget	NUG
Bitter Gold	BIG	Olympic	OLC
Bravo™	BRO	Other	OTH
Brewers Gold	BGO	Pahto™ Brand HBC 682	PAH
BRU-1	BR1	Palisade® Brand YCR 4	PAL
Bullion	BUL	Pekko®, ADHA-871	PEK
Calypso™	CPO	Perle	PER
Cascade	CAS	Saaz	SAZ
Cashmere	CMR	Sabro™ Brand HBC 438	SAB
Centennial	CEN	Santiam	SNT
Chelan	CHE	Satus®, YCR 7	SAT
Chinook	CHI	Serebrianka	SEK
Citra® Brand HBC 394	CIT	Simcoe® Brand YCR 14	SIM
Cluster	CLU	Sonnet™	SON
Columbia	CBA	Sorachi Ace	SOR
Columbus	CBS	Spalter	SPA
Columbus/Tomahawk®/Zeus (CTZ)	CTZ	Sterling	STR
Comet	COM	Strata™, OR91331	STT
Contessa™	CTA	Strissel Spalt	FSP
Crystal	CRY	Summit™	SUM
Delta™	DEL	Sultana™ (06277, formerly Denali™)	SUL
Ekuanot® Brand HBC 366	EKU	Super Galena™	SGA
El Dorado®	ELD	Tahoma	TAH
Eroica	ERO	Talisman	TLN
Eureka!™	EUE	Talus™ HBC 692 c.v.	TAL
Experimental	EXP	Teamaker	TMK
Fuggle	FUG	Tettnanger	TET
Galena	GAL	Tillicum	TIL
Glacier	GLC	Tomahawk®, F10	TOM
Golding	GOL	Topaz	TOP
Hallertauer Mittelfruher	HAL	TriplePearl	TRP
Hallertauer Magnum	HMG	Triumph	TRI
Horizon	HOR	Ultra	ULT
Idaho7™	ID7	Vanguard	VAN
Idaho Gem™	IDG	Warrior® Brand YCR 5	WAR
Jarrylo®, ADHA-881	JAR	Willamette	WIL
Lemondrop™	LDP	Yakima Gold	YKG
Liberty	LIB	Zappa™	ZAP
Loral® Brand HBC 291	LOR	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)					2019-20
	2016	2017	2018	2019	2020	% +/-
Argentina		235	247	247	314	27.00%
Australia	247	1,102	1,184	1,176	1,354	15.13%
Austria	462	460	470	479	487	1.55%
Belgium	220	282	311	306	306	0.00%
Canada		541	541	541	494	-8.68%
China	494	988	988	988	890	-10.00%
Czech Rep.	10,826	11,325	11,562	11,629	11,454	-1.51%
France	941	991	1,048	1,087	1,021	-6.14%
Germany	24,867	25,927	26,742	26,836	27,115	1.04%
Japan		148	148	131	131	0.00%
New Zealand	877	917	917	1,478	1,478	0.00%
Poland	1,530	1,537	1,628	1,596	1,606	0.62%
Romania	168	180	180	185	185	0.00%
Russia	208	544	544	415	415	0.00%
Serbia	84	84	84	0	0	0.00%
Slovakia	339	339	339	319	94	-70.54%
Slovenia	3,242	3,442	3,771	3,707	3,410	-8.00%
South Africa	0	84	180	180	180	0.00%
Spain	0	0	0	0	0	0.00%
Ukraine	764	764	764	764	764	0.00%
UK - England	1,693	2,390	2,387	1,945	1,757	-9.66%
USA	43,000	43,904	42,639	44,425	47,456	6.82%
IHGC Total	89,960	96,183	96,675	98,436	100,911	2.51%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2020 National Hop Report, released in December 2020. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC ALPHA ACREAGE (FIVE YEARS)

COUNTRY	ALPHA ACREAGE (IN ACRES)					2019-20
	2016	2017	2018	2019	2020	% +/-
Argentina		161	148	148	146	-1.67%
Australia	1,100	247	376	435	376	-13.64%
Austria	143	143	143	143	143	0.00%
Belgium	148	133	133	143	143	0.00%
Canada		494	494	494	371	-25.00%
China	4,448	5,642	5,642	5,642	4,942	-12.40%
Czech Rep.	114	114	111	121	151	24.49%
France	82	89	96	64	119	84.62%
Germany	17,925	18,716	20,918	22,025	22,620	2.70%
Japan		148	148	131	131	0.00%
New Zealand	141	175	175	358	358	0.00%
Poland	2,039	2,093	2,268	2,511	2,745	9.35%
Romania	474	474	487	457	465	1.62%
Russia	133	494	494	183	183	0.00%
Serbia	82	82	82	20	0	-100.00%
Slovakia	0	0	0	0	0	0.00%
Slovenia	57	52	52	52	57	9.52%
South Africa	1,038	964	875	875	875	0.00%
Spain	1,325	1,327	1,327	1,322	1,156	-12.52%
Ukraine	148	148	148	148	148	0.00%
UK - England	519	0	418	423	388	-8.19%
USA	9,981	11,777	14,829	14,505	13,571	-6.44%
IHGC Total	39,896	43,474	49,365	50,200	49,088	-2.21%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2020 National Hop Report., released in December 2020. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC TOTAL ACREAGE (FIVE YEARS)

COUNTRY	TOTAL ACREAGE (IN ACRES)					2019-20
	2016	2017	2018	2019	2020	% +/-
Argentina		395	395	395	460	16.25%
Australia	1,349	1,559	1,611	1,730	1,836	6.14%
Austria	615	618	623	623	630	1.14%
Belgium	368	445	452	450	450	0.00%
Canada		1,035	1,035	1,035	865	-16.47%
China	4,942	6,630	6,630	6,630	5,832	-12.04%
Czech Rep.	11,800	12,220	12,405	12,363	12,271	-0.74%
France	1,134	1,189	1,226	1,248	1,236	-0.99%
Germany	45,958	48,293	49,778	50,452	51,167	1.42%
Japan		297	297	262	262	0.00%
New Zealand	1,018	1,092	1,312	1,836	1,836	0.00%
Poland	3,645	3,894	3,894	4,156	4,426	6.48%
Romania	667	667	684	650	665	2.28%
Russia	1,038	1,161	1,161	628	628	0.00%
Serbia	195	195	195	20	20	0.00%
Slovakia	339	339	339	329	94	-71.43%
Slovenia	3,667	3,929	4,119	3,944	3,657	-7.27%
South Africa	1,021	1,048	1,055	1,055	1,055	0.00%
Spain	1,325	1,327	1,327	1,322	1,156	-12.52%
Ukraine	912	912	912	912	912	0.00%
UK - England	2,271	2,390	2,387	2,367	2,145	-9.39%
USA	52,963	55,681	57,468	58,930	61,027	3.56%
IHGC Total	135,226	145,316	149,306	151,337	152,628	0.85%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2020 National Hop Report., released in December 2020. 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 2020

COUNTRY	2020 HOP ACREAGE (acres)				2020 HOP PRODUCTION (pounds)			
	AROMA	ALPHA	NEW	TOTAL	AROMA	ALPHA	TOTAL	Alpha MT.
Argentina	314	146	27	487	507,058	222,665	729,723	28
Australia	1,354	376	106	1,836	3,258,399	520,286	3,778,684	255
Austria	487	143	12	642	793,656	257,938	1,051,594	39
Belgium	306	143	0	450	339,508	268,961	608,470	21
Canada	494	371	0	865	725,313	661,380	1,386,693	53
China	890	4,942	0	5,832	1,199,302	14,329,900	15,529,202	600
Czech Rep.	11,454	151	667	12,271	12,852,818	264,552	13,117,370	265
France	1,021	119	99	1,238	1,481,491	209,437	1,690,928	31
Germany	27,115	22,620	1,431	51,167	47,178,440	56,437,760	103,616,200	5,400
Japan	131	131	0	262	180,777	264,552	445,329	25
New Zealand	1,478	358	818	2,654	2,204,600	551,150	2,755,750	115
Poland	1,606	2,745	74	4,426	2,546,313	4,986,805	7,533,118	354
Romania	185	465	15	665	209,437	275,575	485,012	21
Russia	415	183	30	628	440,920	330,690	771,610	20
Serbia	0	0	0	0	0	0	0	2
Slovakia	94	0	0	94	92,593	0	92,593	2
Slovenia	3,410	57	193	3,660	5,782,666	220,460	6,003,126	213
South Africa	180	875	0	1,055	169,754	1,492,514	1,662,268	75
Spain	0	1,156	0	1,156	0	1,763,680	1,763,680	94
Ukraine	764	148	0	912	881,840	176,368	1,058,208	30
UK - England	1,757	388	0	2,145	1,649,041	388,010	2,037,050	67
USA	47,456	13,571	0	61,027	76,129,740	28,680,560	104,810,300	5,400
IHGC Total	100,911	49,088	3,472	153,471	158,623,667	112,303,243	270,926,910	13,110

SOURCE: IHGC Economic Commission November report. US hop acreage and production are updated to reflect the USDA-NASS 2020 National Hop Report., released in December 2020. 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.

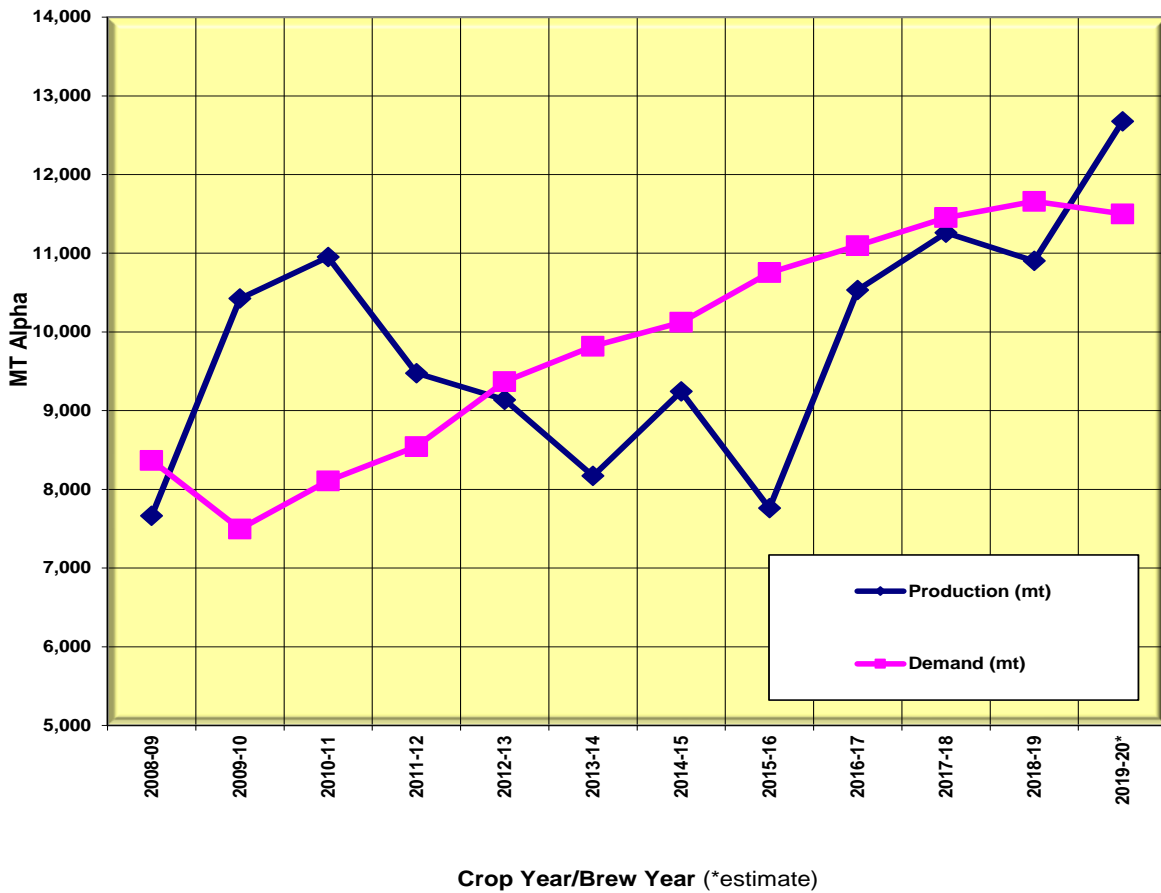
U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)

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 EBC 7.4	MT Alpha	Avg. Alpha %*
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%
2020*	104,810	47,542	5,500	11.6%	103,616	47,000	5,000	10.6%

*2020 figures are estimated at time of publication.

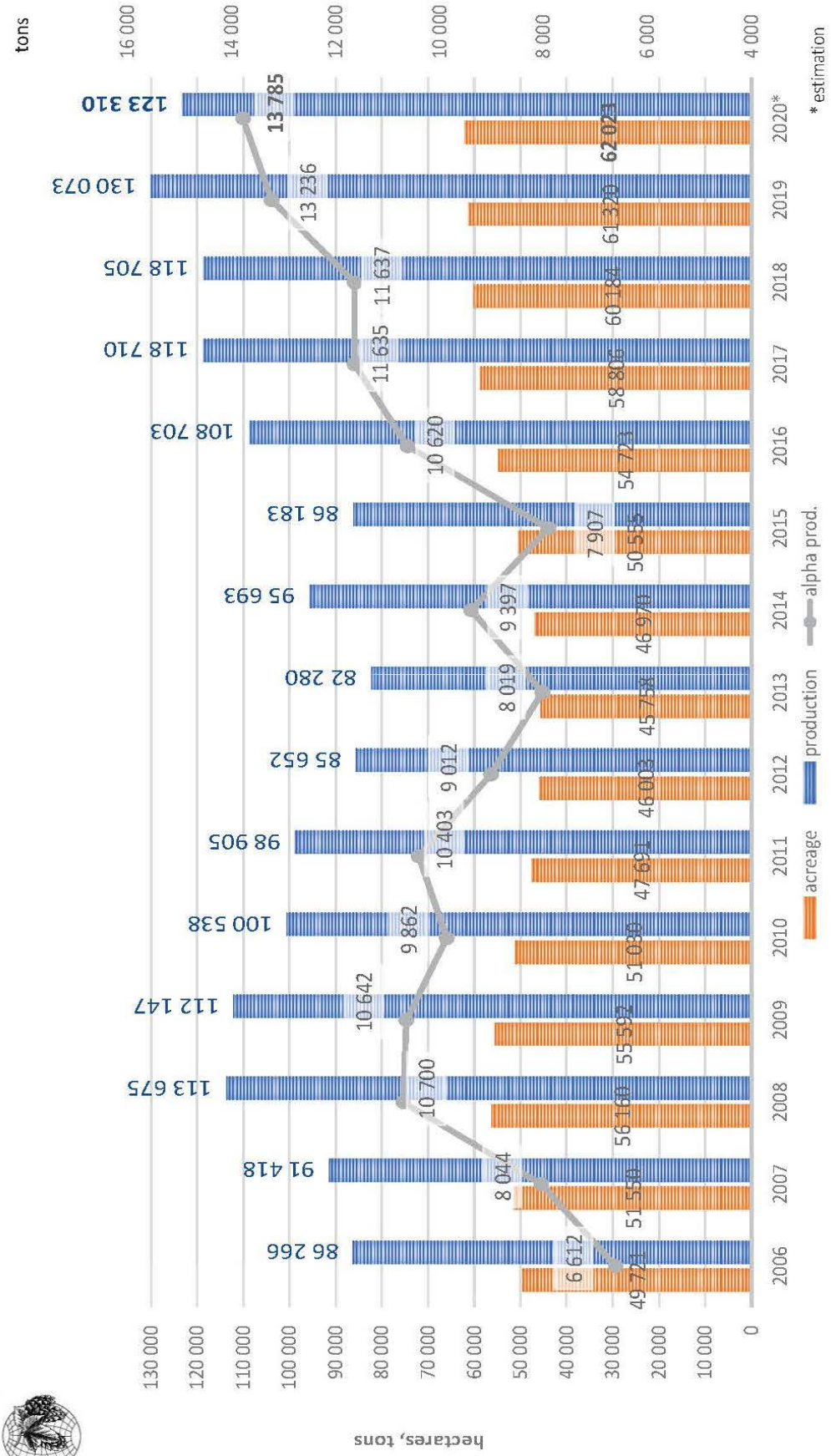
US figures include an estimate for non-PNW states, added to the Pacific Northwest production estimated by US hop merchant sources, based on EBC 7.4 method of analysis. Conversion factor of 90% is used to convert Spectro to EBC 7.4. German estimated alpha figure was also provided by hop merchant contacts.

WORLD ALPHA PRODUCTION & DEMAND

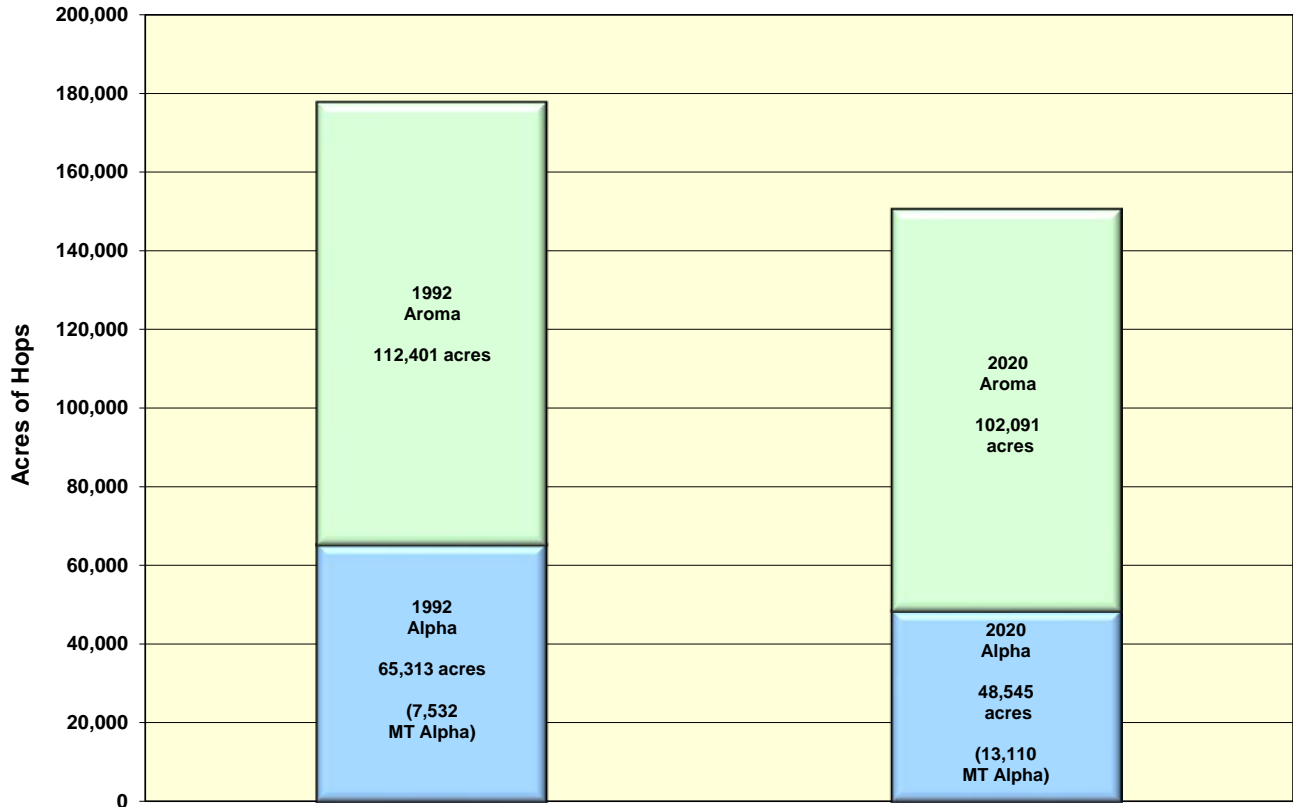


SOURCE: BarthHaas Report. 2019-20. Prepared by HGA. 2020 Brew Year demand assumes an 8% decrease in beer output due to COVID-19.

COMPARISON OF IHGC CROPS 2006-2020

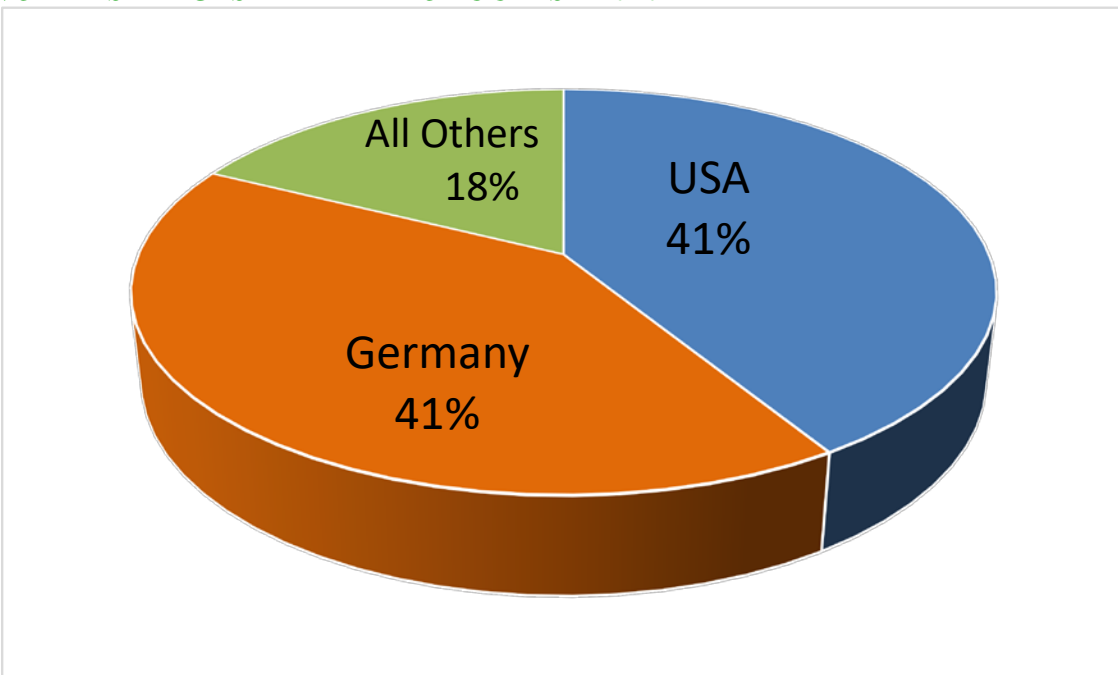


COMPOSITION OF WORLD HOP ACREAGE - 1992 VERSUS 2020



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

WORLD'S LARGEST ALPHA PRODUCERS – 2020



SOURCE: IHGC November Report. Prepared by HGA.

WORLD HOP ACREAGE & PERCENT SHARE (acres)

COUNTRY	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USA	28,787	29,683	35,288	38,892	45,238	52,980	55,681	57,468	58,930	61,027
	25%	27%	32%	34%	38%	39%	38%	38%	39%	40%
Germany	43,818	40,887	38,895	39,782	41,253	45,958	48,293	49,778	50,452	51,167
	38%	37%	35%	34%	34%	34%	33%	33%	33%	34%
Czech Rep.	10,952	10,564	10,178	10,018	10,359	11,800	12,220	12,405	12,363	12,271
	10%	10%	9%	9%	9%	9%	8%	8%	8%	8%
China	11,016	9,961	7,413	6,548	5,684	4,942	6,630	6,630	6,630	5,832
	10%	9%	7%	6%	5%	4%	5%	4%	4%	4%
UK-England	2,750	2,597	2,597	2,291	2,209	2,212	2,390	2,387	2,367	2,145
	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Europe (rest)	13,178	11,842	11,897	14,881	11,711	13,015	13,515	13,771	13,653	13,245
	12%	11%	11%	13%	10%	10%	9%	9%	9%	9%
World (rest)	3,620	3,575	3,650	3,508	3,544	3,793	5,552	5,831	5,906	6,076
	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%
World Totals	114,121	109,109	109,918	115,920	119,994	134,700	145,316	149,305	151,337	152,628

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 2020 report. US hop acreage updated to reflect USDA-NASS National Hop Report, released in December 2020.

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

COUNTRY	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USA	64,992	61,316	69,343	70,997	80,203	88,616	106,240	108,407	113,041	104,810
	30%	31%	39%	34%	42%	37%	41%	42%	40%	39%
Germany	82,673	76,059	60,746	84,657	62,170	94,136	91,614	91,932	106,703	103,616
	38%	39%	34%	41%	33%	40%	35%	35%	38%	38%
Czech	13,779	9,480	11,750	13,007	10,582	15,653	14,985	11,243	15,212	13,117
	6%	5%	7%	6%	6%	7%	6%	4%	5%	5%
China	29,982	26,334	13,228	13,228	13,228	9,921	15,529	15,529	15,529	15,529
	14%	13%	7%	6%	7%	4%	6%	6%	5%	6%
England	3,351	3,217	2,723	2,205	2,866	3,197	3,924	3,036	3,739	2,037
	2%	2%	2%	1%	2%	1%	1%	1%	1%	1%
Europe (rest)	17,077	14,777	14,202	17,791	14,874	18,466	19,440	20,035	19,204	20,287
	8%	7%	8%	9%	8%	8%	7%	8%	7%	7%
World (rest)	5,939	6,309	6,446	6,231	6,444	6,351	9,976	10,450	10,470	11,530
	3%	3%	4%	3%	3%	3%	4%	4%	4%	4%
World Totals	217,793	197,492	178,438	208,116	190,367	236,340	261,708	260,632	283,898	270,927

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 2020 report. Prepared by HGA.

EXPORTS OF U.S. HOPS (INCLUDING EXTRACT), TOP 40 COUNTRIES (2016-2020)

Rank	Destination Partner	September-August Quantities (MT)				
		2016	2017	2018	2019	2020
1	Canada	1,299.90	1,379.60	1,693.20	2,106.40	2,495.90
2	Belgium-Luxembourg(*)	1,204.40	1,622.00	2,138.90	2,467.20	2,318.90
3	Germany(*)	1,253.00	1,124.10	1,677.90	1,896.60	2,243.20
4	United Kingdom	2,886.60	3,302.50	2,556.60	2,028.20	1,973.90
5	Brazil	1,185.90	771.3	1,473.80	1,584.40	1,768.00
6	China	526.1	781.2	1,155.80	953.1	967
7	Argentina	218.4	310	776.6	521.1	817.3
8	Australia(*)	393.8	567.6	734.1	963.6	751.2
9	Mexico	1,073.20	801.2	811.7	810.4	588.1
10	Japan	679.9	608.7	459.8	447.4	515.9
11	Vietnam	103.9	123.4	195	296.3	355.5
12	Chile	130.7	57.4	92.3	181	222.2
13	Korea, South	273.5	279.8	340.3	233.6	219
14	Colombia	582.5	673	607	558.2	196.5
15	Hong Kong	246.4	200.4	80	118.1	184.3
16	New Zealand(*)	47.9	108.4	87	188.9	146.9
17	Philippines	202.4	149.6	186.2	125.9	141.2
18	Peru	267.6	274.4	254.1	229.1	122.6
19	Netherlands	51	43.4	15.6	57.3	100.1
20	Russia	178.9	238.2	89.8	94.9	97.7
21	Dominican Republic	108.2	125.8	95.3	98.5	93.8
22	Ireland	71.9	89.6	27.8	48.3	69.9
23	Sweden	6.1	4.1	5.7	12.1	55.5
24	Guatemala	59.3	63.4	36.3	45.1	50.6
25	Uruguay	26.1	49.9	14.7	13	49
26	Ecuador	63.9	66	94.7	130.4	46.4
27	Panama	17.3	38.4	66.6	66.4	40.4
28	South Africa	78.8	123	99.7	118.7	36.5
29	Paraguay	25.6	6.3	15.8	28.1	35
30	Cambodia	24	40.3	17.5	48	26.5
31	India	58.3	104.9	80	142.1	25.6
32	El Salvador	15.7	21	24.4	35.9	24.6
33	Turkey	15.4	17.8	26	18.2	23.4
34	Indonesia	47.2	15.9	17.9	18	22.6
35	Taiwan	5.5	4.8	32.9	28.9	21.2
36	Honduras	14.6	24.2	31.2	26.7	18.7
37	Iceland	0	14.2	4.1	3.3	18.4
38	Malaysia	12.3	13.5	16.2	21.8	16.8
39	Bolivia	17.2	45.7	18.4	37.7	15.4
40	Singapore	11.9	17.1	11.5	18.9	14.7
	Total Top 40 Countries	13,485.3	14,302.1	16,162.4	16,821.8	16,930.4
	All Other Countries	1.3	31	1.7	0.7	13.7
	Grand Total	13,798.3	14,600.2	16,422.1	17,046.1	17,078.7

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. Quantity includes the total for all forms of hops (dried cones, powder, pellets, extract, and downstream products) with no conversion factor applied to represent dried hop cone weight.

U.S. IMPORTS OF HOPS (FIVE YEARS)

Rank	Partner	September-August Quantities (MT)				
		2016	2017	2018	2019	2020
1	Germany(*)	3,083.80	3,349.90	3,427.80	3,064.30	2,909.80
2	New Zealand(*)	306.3	307.6	396.9	372.4	954.4
3	Australia(*)	655.6	600.9	621.9	670.3	750.9
4	United Kingdom	640.2	496.9	423.2	426.5	221.5
5	South Africa	11.3	31.8	5	43.1	118.8
6	Czech Republic	81.4	210.2	97.7	82	86.1
7	China	1.7	28.4	30.7	78.8	49.8
8	Slovenia	78.5	182.3	92.9	23.7	45.8
9	Sierra Leone	0	0	0	33.7	37.2
10	Canada	3.9	39.8	47.8	37	32.2
11	Italy(*)	1.5	15.5	10.8	17.9	13.9
12	France(*)	21.7	54	21.1	29.6	2.8
13	Ethiopia(*)	2.1	7.8	0.8	6.1	1.8
14	Austria	0	0	0	6.9	1.4
15	Chile	0	0	0	0	1.3
16	Belgium-Luxembourg(*)	26.1	17.9	0.2	15.8	0.2
17	Argentina	0	0	1	6.7	0
18	Hong Kong	0	0	10.1	13	0
19	Latvia	3	0	0	0	0
20	Slovakia	0	4.5	0	0	0
21	Poland	3.6	0	0	0.4	0
22	Russia	0	0	0	0.4	0
23	Spain	0	0	0.1	0	0
	Grand Total	4,920.7	5,347.5	5,188.0	4,928.6	5,227.9

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. Quantity includes the total for all forms of hops (dried cones, powder, pellets, extract, and downstream products) with no conversion factor applied to represent dried hop cone weight.

WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2018-19 (MILLION HL)

Brewery	2018 Production	2017 % Share	2019 Production	2018 % Share
ABInBev	567.0	29.8%	561.4	29.3%
Heineken	233.8	12.3%	241.4	12.6%
China Res. Snow Breweries	121.0	6.4%	114.3	6.0%
Carlsberg	112.3	5.9%	112.5	5.9%
Molson-Coors	96.6	5.1%	92.7	4.8%
Tsingtao Brewery Group	80.3	4.2%	80.5	4.2%
Asahi	57.9	3.0%	57.3	3.0%
Yanjing	38.0	2.0%	38.2	2.0%
BGI/Groupe Castel	40.5	2.1%	36.7	1.9%
Efes Group	31.8	1.7%	36.2	1.9%
Top 10 total	1,379.2	72.5%	1,371.2	71.6%

The top 3 brewing groups controlled 47.9% of the market share in 2019, down from 48.5% in 2018.

The top 40 brewing groups worldwide represented 90.1% market share in 2019.

Source: Barth Report 2019-20

FOR AN INTERESTING COMPARISON, HERE IS THE RANKING FOR WORLD BEER PRODUCTION BY BREWERY (TOP 10) FOR 1988 (MILLION HL) - 32 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	2016	2017	2018	2019	2020*
Germany	95.3	93.0	93.5	91.6	90.5
Russia	86.2	74.5	70.0	73.0	74.0
England	42.4	43.3	43.0	41.0	37.0
Poland	41.5	40.5	40.9	39.9	34.6
Spain	36.3	37.2	38.1	39.5	25.0
Netherlands	24.2	24.8	24.5	21.0	20.5
France	21.3	21.3	21.9	24.9	19.4
Belgium	21.3	21.9	21.5	22.5	19.1
Czech Republic	20.6	20.3	20.8	22.4	17.9
Romania	18.3	16.8	19.2	18.2	17.8
Ukraine	17.5	17.8	18.0	19.2	17.6
Italy	14.5	15.6	15.8	16.0	14.6
Austria	9.5	9.7	9.8	9.9	9.3
Turkey	9.5	9.1	9.3	9.3	8.5
Ireland	7.9	7.8	8.0	8.1	7.4
Portugal	6.4	6.7	6.7	6.7	6.1
Other Europe	65.4	69.9	67.0	66.7	61.8
Total Europe	538.1	530.2	528.0	529.9	481.1
USA	200.6	217.8	214.4	214.0	210.0
Brazil	127.2	140.0	140.0	140.0	135.0
Mexico	109.8	110.0	115.0	116.0	112.0
Colombia	22.8	21.9	22.8	22.9	22.0
Canada	20.8	22.1	22.1	22.1	21.8
Argentina	18.0	18.9	19.2	19.2	19.0
Peru	13.9	14.4	14.5	14.5	14.0
Chile	6.8	8.4	8.4	8.7	8.6
Other Americas	48.9	41.3	43.9	43.9	41.8
Total Americas	568.8	594.8	600.3	601.3	584.2
P.R. China	485.1	440.0	382.0	375.0	337.4
Japan	54.3	51.6	49.0	52.5	44.9
Vietnam	40.6	46.1	43.5	44.8	36.0
India	27.4	22.5	24.0	25.2	22.0
Thailand	21.8	22.5	24.0	24.0	20.5
South Korea	20.6	21.3	20.0	18.2	17.0
Philippines	17.7	22.0	19.5	19.5	16.0
Other Asia	36.4	38.1	49.0	53.8	47.3
Total Asia	703.9	664.1	611.0	613.0	541.1
South Africa	31.6	32.3	32.6	33.1	24.8
Nigeria	15.6	17.0	17.0	17.5	14.1
Other Africa	81.6	85.7	92.7	94.9	81.5
Total Africa	128.8	135.0	142.3	145.5	120.4
Australia	16.7	16.3	17.6	17.5	16.1
New Zealand	2.8	2.9	3.0	3.0	2.8
Oceania	1.3	1.5	1.3	1.3	1.3
Total Australia	20.9	20.7	22.3	22.1	20.4
WORLD TOTALS	1,960.5	1,944.8	1,903.9	1,911.8	1,747.2

* Estimate

Source: S.S. Steiner 2020 Guidelines for Hop Buying