



2022

STATISTICAL REPORT

RELEASED JANUARY 2023

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	8
CHART – MAJOR PNW HOP VARIETIES	8
<u>PNW HOP ACREAGE BY STATE (10 YEARS)</u>	<u>9</u>
CHART – US HOP ACREAGE (1992-2021)	9
PNW HOP YIELDS BY STATE AND VARIETY (5 YEARS)	10-11
U.S. AVERAGE HOP YIELDS (10 YEARS)	12
CHART – US HOP ACREAGE – AROMA/DUAL PURPOSE VS. ALPHA	12
<u>U.S. HOP PRODUCTION BY STATE AND VARIETY (5 YEARS)</u>	<u>13-14</u>
CHART – US HOP PRODUCTION – ALPHA VS. AROMA POUNDS, AVG. YIELD	15
U.S. HOPS: SEASON AVERAGE PRICE & TOTAL CROP VALUE	15
U.S. HOP STOCKS	16
2021 U.S. HOP INSPECTION REPORT	17
<u>U.S. HOP LEAF, STEM & SEED CONTENT PERCENTAGE (10 YEARS)</u>	<u>17</u>
2021 US-GROWN HOP VARIETY CODES	18
IHGC AROMA ACREAGE (5 YEARS)	19
IHGC ALPHA ACREAGE (5 YEARS)	19
<u>IHGC TOTAL ACREAGE (5 YEARS)</u>	<u>20</u>
2021 IHGC HOP ACREAGE AND PRODUCTION	20
U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)	21
CHART – WORLD ALPHA PRODUCTION & DEMAND (10 YEARS)	21
<u>CHART – COMPARISON OF IHGC CROPS 2005-2020</u>	<u>22</u>
CHART - COMPOSITION OF WORLD HOP ACREAGE 1992 VERSUS 2020	23
CHART – WORLD’S LARGEST ALPHA PRODUCERS	23
WORLD HOP ACREAGE & PERCENT SHARE (10 YEARS)	24
<u>WORLD HOP PRODUCTION & PERCENT SHARE (10 YEARS)</u>	<u>24</u>
U.S. HOP EXPORTS BY COUNTRY – TOP 40 (5 YEARS)	25
U.S. HOP IMPORTS BY COUNTRY (5 YEARS)	26
WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2018/19 vs. 1988	27
WORLD BEER PRODUCTION (5 YEARS)	28

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 2022, 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

An atypical spring in the Pacific Northwest defined 2022 as a challenging year for U.S. hop production, hastening a crop 12.31% lower than 2021's record year at 102.2 million pounds.

With 61,177 acres U.S. hop acreage remained stable, marking a slight 2 percent decline. For the fifth year in a row Citra® HBC 394 remained dominant in acreage, amassing a total of 12,044 acres and comprising 20 percent of Pacific Northwest acreage. This year Citra® HBC 394 climbed to the new height of alone accounting for more acres than the entire high alpha category in the United States.

Mosaic® HBC 369 held onto second place with 6,501 acres. This year Cascade acreage rose 18%, surpassing high alpha CTZ to secure third place. While total acreage in the Pacific Northwest declined by 2%, aroma acreage increased by 2% while high alpha varieties dropped 16% to approximately 11,000 acres. In 2022 82 percent of Pacific Northwest acreage was dedicated to aroma and dual-purpose varieties, and 18 percent was allocated to alpha varieties. Just 10 years ago the Pacific Northwest grew 50% aroma and dual-purpose varieties and 50% alpha varieties.

A rare La Niña climate pattern ushered among the coldest and wettest spring months in the recorded history of the Pacific Northwest hop growing regions and critically delayed the development of the hop crop. Challenged by this race against time to coax hops to maturity, the situation was exacerbated in late summer when hosts of 100-degree days ripped across the Pacific Northwest and triggered the plants to

suspend cone ripening. These key factors contributed to lower yields of 1,694 pounds per acre, nearly 11% below the 10-year average of 1,889 pounds per acre.

2022's production decreased to 102.2 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 1,387 acres outside of the PNW yielding 900,000 pounds.

Washington production represented 71% of the Pacific Northwest, followed by Idaho with 16% and Oregon with 13%. The remaining states commercial hop production is estimated at 900,000 pounds. States outside the Pacific Northwest experienced fair growing conditions with optimal precipitation, controlled pest pressures, and above-average yields.

Top 10 PNW Hop Varieties by Acreage:

Rank	2017	2018	2019	2020	2021	2022
1	Cascade	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394
2	Centennial	CTZ	CTZ	CTZ	Mosaic®, HBC 369	Mosaic®, HBC 369
3	Citra®, HBC 394	Cascade	Cascade	Mosaic®, HBC 369	CTZ	Cascade
4	CTZ	Centennial	Simcoe®, YCR 14	Simcoe®, YCR 14	Cascade	CTZ
5	Simcoe®, YCR 14	Simcoe®, YCR 14	Mosaic®, HBC 369	Cascade	Simcoe®, YCR 14	Simcoe®, YCR 14
6	Mosaic®, HBC 369	Chinook	Centennial	Centennial	Centennial	Centennial
7	Chinook	Mosaic®, HBC 369	Amarillo®, VGXP01	Pahto®, HBC 682	Pahto®, HBC 682	Chinook
8	Willamette	Amarillo®, VGXP01	Chinook	Amarillo®, VGXP01	Amarillo®, VGXP01	Amarillo®, VGXP01
9	Summit	Pahto®, HBC 682	Pahto®, HBC 682	Chinook	Chinook	Pahto™, HBC 682
10	Apollo™	Summit	Summit	El Dorado®	El Dorado®	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 10 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.

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>. Substantially increased inflation impacting supplies, fuel, labor, and other inputs was estimated by the Bureau of Labor Statistics at 6.5% for 2021 and 6.2% for 2022, which would result in a generally estimated cost of production of \$15,368 per acre when applied to the 2020 figure derived by WSU.

Year	PNW Acres Harvested	PNW Production (pounds)	Yield	Value of Production (\$1,000)	Gross Return per acre*
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
2021	60,872	115,630,900	1,900	\$661,618	\$10,869
2022	59,785	101,286,300	1,694	\$617,607	\$10,330

Source: USDA-NASS, prepared by HGA.

US HOP ACREAGE BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	ACRES HARVESTED					2021-2022
	2018	2019	2020	2021	2022	% +/-
ARIZONA	1.0	1.0	1.0	1.0	1.0	0.00%
CALIFORNIA	130.0	130.0	130.0	50.0	50.0	0.00%
COLORADO	147.0	147.0	147.0	10.0	10.0	0.00%
CONNECTICUT	15.0	15.0	20.0	10.0	10.0	0.00%
IDAHO #						
Amarillo®, VGXP01	825.0	561.0	538.0	380.0	379.0	-0.26%
Apollo™	232.0	191.0	158.0	158.0	*	
Bravo™	87.0	62.0	10.0	17.0	*	
Calypso	81.0	81.0	53.0	53.0	*	
Cascade	836.0	710.0	407.0	479.0	845.0	76.41%
Cashmere	*	*	125.0	124.0	140.0	12.90%
Centennial	*	*	*	*	*	
Chinook	962.0	786.0	624.0	521.0	542.0	4.03%
Citra®, HBC 394	855.0	973.0	1,527.0	1,743.0	1,767.0	1.38%
Cluster	63.0	*	*	*	*	
Columbus/Tomahawk®/Zeus	1,496.0	1,602.0	1,457.0	1,046.0	520.0	-50.29%
Comet	*	112.0	93.0	146.0	144.0	-1.37%
Crystal	150.0	131.0	*	*	*	
El Dorado®	120.0	352.0	526.0	621.0	304.0	-51.05%
Eureka!™	133.0	185.0	187.0	332.0	419.0	26.20%
Galena	109.0	113.0	*	*	*	
Hallertauer	*	25.0	159.0	159.0	159.0	0.00%
Idaho 7™	*	388.0	564.0	592.0	382.0	-35.47%
Mosaic®, HBC 369	506.0	801.0	1,186.0	1,380.0	1,440.0	4.35%
Mt. Rainier	*	*	*	84.0	85.0	1.19%
Northern Brewer	*	57.0	58.0	58.0	*	
Saaz	*	140.0	*	330.0	380.0	15.15%
Simcoe®, YCR 14	449.0	469.0	425.0	388.0	441.0	13.66%
Super Galena™	84.0	63.0	63.0	63.0	*	
Triumph	*	*	39.0	72.0	55.0	-23.61%
Willamette	*	170.0	*	389.0	459.0	17.99%
Experimental	*	*	*	*	*	
Other Varieties	1,152.0	386.0	1,069.0	559.0	806.0	44.19%
TOTAL IDAHO #	8,140.0	8,358.0	9,268.0	9,694.0	9,267.0	-4.40%
ILLINOIS	30.0	30.0	30.0	20.0	20.0	0.00%
INDIANA	50.0	50.0	100.0	80.0	80.0	0.00%
IOWA	60.0	60.0	60.0	40.0	40.0	0.00%
KENTUCKY	12.0	12.0	18.0	11.0	11.0	0.00%
MAINE	24.0	24.0	24.0	15.0	15.0	0.00%
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STATE & VARIETY	ACRES HARVESTED					2021-2022
	2018	2019	2020	2021	2022	% +/-
MARYLAND	20.0	20.0	20.0	10.0	10.0	0.00%
MASSACHUSETTS	30.0	30.0	30.0	15.0	15.0	0.00%
MICHIGAN	750.0	720.0	500.0	375.0	380.0	1.33%
MINNESOTA	120.0	122.0	40.0	30.0	30.0	0.00%
MONTANA	36.0	36.0	173.0	197.0	197.0	0.00%
NEBRASKA	44.0	46.5	49.0	10.0	10.0	0.00%
NEW HAMPSHIRE	2.0	2.0	2.0	2.0	2.0	0.00%
NEW JERSEY	15.0	15.0	15.0	10.0	10.0	0.00%
NEW YORK	400.0	400.0	350.0	300.0	300.0	0.00%
NORTH CAROLINA	30.0	35.0	25.0	20.0	20.0	0.00%
NORTH DAKOTA	3.5	3.5	3.5	3.0	3.0	0.00%
OHIO	70.0	85.0	870.0	65.0	65.0	0.00%
OREGON #						
Amarillo®, VGXP01	*	212.0	216.0	193.0	210.0	8.81%
Cascade	1,064.0	1,039.0	754.0	666.0	658.0	-1.20%
Centennial	698.0	614.0	489.0	364.0	380.0	4.40%
Chinook	129.0	114.0	86.0	79.0	90.0	13.92%
Citra®, HBC 394	690.0	998.0	1,327.0	1,472.0	1,691.0	14.88%
Crystal	354.0	247.0	*	159.0	191.0	20.13%
Eureka!™	*	*	*	31.0	*	
Fuggle	59.0	63.0	*	*	*	
Golding	121.0	92.0	*	78.0	*	
Hallertau Magnum	105.0	*	*	*	*	
Liberty	*	*	56.0	54.0	*	
Mosaic®, HBC 369	*	478.0	595.0	844.0	901.0	6.75%
Mt. Hood	311.0	295.0	159.0	123.0	171.0	39.02%
Mt. Rainier	*	*	*	126.0	130.0	3.17%
Nugget	1,307.0	1,059.0	826.0	572.0	441.0	-22.90%
Perle	77.0	*	*	*	*	
Sabro™, HBC 438	*	*	74.0	225.0	119.0	-47.11%
Simcoe®, YCR 14	436.0	440.0	474.0	499.0	527.0	5.61%
Sterling	191.0	147.0	58.0	58.0	35.0	-39.66%
Strata™, OR 91331	*	253.0	484.0	833.0	1,143.0	37.21%
Super Galena™	84.0	78.0	87.0	14.0	*	
Talus™, HBC 692	*	*	*	*	46.0	
Tettnanger	72.0	*	*	*	*	
Willamette	913.0	619.0	605.0	446.0	471.0	5.61%
Other Varieties	1,114.0	558.0	814.0	559.0	552.0	-1.25%
TOTAL OREGON #	7,725.0	7,306.0	7,104.0	7,395.0	7,756.0	4.88%
PENNSYLVANIA	30.0	50.0	40.0	20.0	20.0	0.00%
RHODE ISLAND	10.0	10.0	10.0	5.0	5.0	0.00%
VERMONT	25.0	25.0	40.0	38.0	38.0	0.00%
VIRGINIA	30.0	30.0	20.0	10.0	10.0	0.00%
Continued on next page						

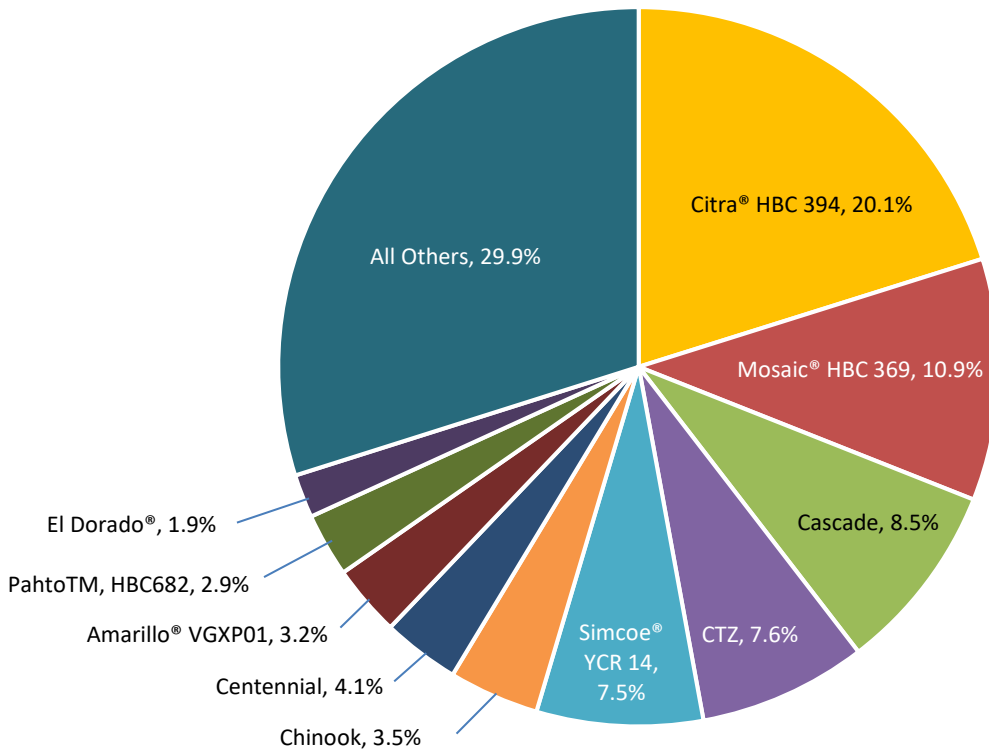
STATE & VARIETY	ACRES HARVESTED					2021-2022
	2018	2019	2020	2021	2022	% +/-
WASHINGTON #						
Ahtanum™, YCR 1	255.0	261.0	230.0	166.0	168.0	1.20%
Amarillo®, VGXP01	1,895.0	1,597.0	1,395.0	1,334.0	1,324.0	-0.75%
Apollo™	795.0	851.0	750.0	795.0	807.0	1.51%
Azacca™, ADHA-483	546.0	589.0	722.0	730.0	871.0	19.32%
Bravo™	280.0	236.0	201.0	238.0	203.0	-14.71%
Calypso™	104.0	104.0	115.0	115.0	*	
Cascade	4,274.0	3,718.0	2,877.0	3,183.0	3,604.0	13.23%
Cashmere	195.0	310.0	448.0	690.0	717.0	3.91%
Centennial	3,875.0	3,031.0	2,444.0	1,978.0	2,044.0	3.34%
Chinook	1,734.0	1,437.0	1,183.0	1,174.0	1,443.0	22.91%
Citra®, HBC 394	4,837.0	6,720.0	8,143.0	8,766.0	8,586.0	-2.05%
Cluster	610.0	470.0	413.0	390.0	286.0	-26.67%
Columbus/Tomahawk®/Zeus	4,626.0	4,935.0	4,829.0	4,523.0	3,998.0	-11.61%
Comet	218.0	210.0	330.0	386.0	327.0	-15.28%
Crystal	114.0	66.0	*	*	*	
Ekuanot™, HBC 366	865.0	632.0	641.0	381.0	367.0	-3.67%
El Dorado®	418.0	641.0	1,058.0	1,113.0	861.0	-22.64%
Eureka™	409.0	425.0	465.0	466.0	570.0	22.32%
Galena	390.0	297.0	241.0	*	*	
Glacier	*	*	*	*	*	
Idaho 7™	*	85.0	341.0	388.0	158.0	-59.28%
Jarrylo™, ADHA-881	*	*	17.0	*	*	
Loral™, HBC 291	172.0	125.0	164.0	197.0	199.0	1.02%
Mosaic®, HBC 369	1,932.0	2,829.0	3,715.0	4,193.0	4,160.0	-0.79%
Mt. Hood	104.0	53.0	48.0	*	42.0	
Mt. Rainier	306.0	239.0	223.0	209.0	212.0	1.44%
Nugget	126.0	104.0	*	*	*	
Pahto™, HBC 682	1,721.0	2,109.0	2,208.0	2,114.0	1,709.0	-19.16%
Palisade®, YCR-4	515.0	477.0	246.0	333.0	377.0	13.21%
Pekko™, ADHA-871	92.0	*	801.0	1,070.0	1,084.0	1.31%
Sabro™, HBC 438	*	724.0	1,145.0	1,120.0	548.0	-51.07%
Simcoe®, YCR 14	3,103.0	3,367.0	3,214.0	3,172.0	3,494.0	10.15%
Sorachi Ace	146.0	*	*	*	*	
Summit™	1,574.0	1,072.0	640.0	437.0	*	
Super Galena™	500.0	473.0	475.0	480.0	354.0	-26.25%
Tahoma	209.0	230.0	177.0	388.0	383.0	-1.29%
Talus™, HBC 692	*	*	*	*	377.0	
Tettnanger	*	*	*	*	*	
Warrior® YCR 5	*	*	283.0	128.0	147.0	14.84%
Willamette	376.0	270.0	203.0	132.0	124.0	-6.06%
Zappa™	*	*	*	*	69.0	
Experimental	374.0	360.0	453.0	575.0	702.0	22.09%
Other Varieties	1,480.0	1,833.0	1,431.0	2,419.0	2,447.0	1.16%
TOTAL WASHINGTON #	39,170.0	40,880.0	42,269.0	43,783.0	42,762.0	-2.33%
WISCONSIN	297.0	297.0	150.0	40.0	40.0	0.00%
TOTAL PACIFIC NORTHWEST	55,035.0	56,544.0	58,641.0	60,872.0	59,785.0	-1.79%
TOTAL NON-PNW US	2,433.0	2,386.0	2,077.0	1,387.0	1,392.0	0.36%
TOTAL UNITED STATES	57,468.0	58,930.0	60,718.0	62,259.0	61,177.0	-1.74%

SOURCE: USDA-NASS and Hop Growers of America. Prepared by HGA. "Other Varieties" includes data to avoid disclosure of individual operations. # Figures for WA, OR, and ID are derived from the USDA-NASS 2022 National Hop Report.

TOP 10 PACIFIC NORTHWEST HOP VARIETIES (WITH ACREAGE)

Rank	2017	2018	2019	2020	2021	2022
1	Cascade (7,175)	Citra®, HBC 394 (6,652)	Citra®, HBC 394 (9,035)	Citra®, HBC 394 (10,997)	Citra®, HBC 394 (11,981)	Citra®, HBC 394 (12,044)
2	Centennial (5,534)	CTZ (6,102)	CTZ (6,539)	CTZ (6,286)	Mosaic®, HBC 369 (6,417)	Mosaic®, HBC 369 (6,501)
3	Citra®, HBC 394 (5,284)	Cascade (6,009)	Cascade (5,280)	Mosaic®, HBC 369 (5,496)	CTZ (5,569)	Cascade (5,107)
4	CTZ (4,952)	Centennial (4,864)	Simcoe®, YCR 14 (4,365)	Simcoe®, YCR 14 (4,113)	Cascade (4,328)	CTZ (4,518)
5	Simcoe®, YCR 14 (4,598)	Simcoe®, YCR 14 (3,916)	Mosaic®, HBC 369 (4,225)	Cascade (4,038)	Simcoe®, YCR 14 (4,007)	Simcoe®, YCR 14 (4,462)
6	Mosaic®, HBC 369 (2,773)	Chinook (2,839)	Centennial (3,680)	Centennial (2,933)	Centennial (2,342)	Centennial (2,424)
7	Chinook (2,429)	Mosaic®, HBC 369 (2,768)	Amarillo®, VGXP01 (2,369)	Pahto®, HBC 682 (2,208)	Pahto®, HBC 682 (2,114)	Chinook (2,075)
8	Willamette (1,657)	Amarillo®, VGXP01 (2,734)	Chinook (2,368)	Amarillo®, VGXP01 (2,149)	Amarillo®, VGXP01 (1,907)	Amarillo®, VGXP01 (1,913)
9	Summit (1,616)	Pahto®, HBC 682 (1,659)	Pahto®, HBC 682 (2,150)	Chinook (1,893)	Chinook (1,774)	Pahto™, HBC 682 (1,709)
10	Apollo™ (912)	Summit (1,574)	Summit (1,072)	El Dorado® (1,584)	El Dorado® (1,734)	El Dorado® (1,165)
	Top Ten 36,930	Top Ten 39,117	Top Ten 41,083	Top Ten 41,697	Top Ten 42,173	Top Ten 41,918
	Other 18,670	Other 15,918	Other 15,461	Other 16,944	Other 18,699	Other 17,867
	Total 55,600	Total 55,035	Total 56,544	Total 58,641	Total 60,872	Total 59,785
	Top Ten 66.4%	Top Ten 71%	Top Ten 72.65%	Top Ten 71.1%	Top Ten 69.3%	Top Ten 70.1%

MAJOR PNW HOP VARIETIES – 2022 (% of acreage)



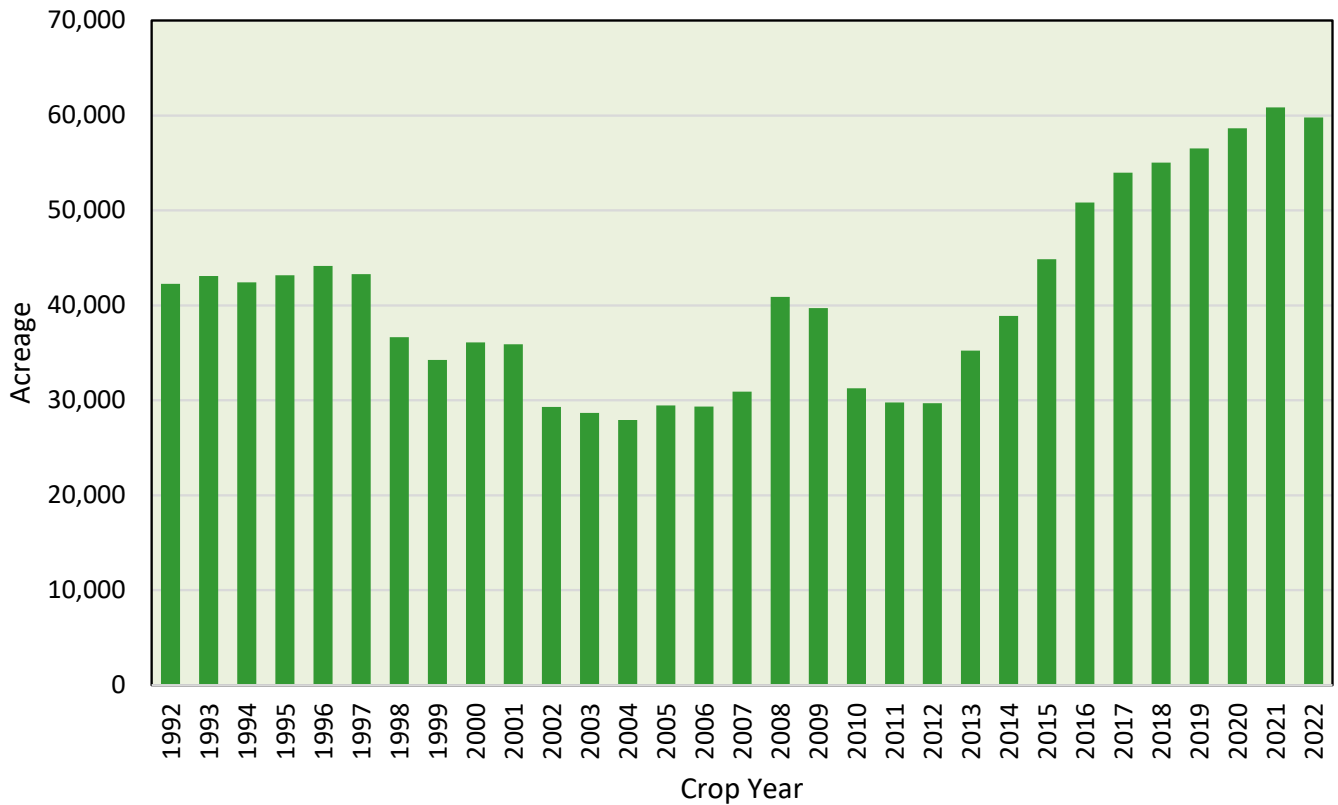
SOURCE: USDA-NASS. Prepared by HGA.

PACIFIC NORTHWEST HOP ACREAGE BY STATE (10 YEARS)

YEAR	ACREAGE HARVESTED			
	WASHINGTON	OREGON	IDAHO	TOTAL
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
2021	43,783	7,395	9,694	60,872
2022	42,762	7,756	9,267	59,785

SOURCE: USDA-NASS. Prepared by HGA.

US HOP ACREAGE (1992-2022)



SOURCE: USDA-NASS and HGA Hop Acreage Reports

HOP YIELDS BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2021-22
	2018	2019	2020	2021	2022	% +/-
IDAHO						
Amarillo [®] , VGXP01	2,009	1,560	1,576	1,813	1,458	-19.58%
Apollo [™]	1,951	2,480	2,305	2,535	*	
Bravo [™]	2,226	2,246	1,473	1,163	*	
Calypso [™]	2,138	1,901	1,966	1,974	*	
Cascade	1,716	1,823	1,213	1,559	1,494	-4.17%
Cashmere	*	*	1,578	1,828	1,622	-11.27%
Centennial	*	*	*	*	*	
Chinook	1,873	2,215	1,614	2,104	1,467	-30.28%
Citra [®] , HBC 394	1,415	1,532	1,686	1,413	1,515	7.22%
Cluster	2,126	*	*	*	*	
Columbus/Tomahawk [®] /Zeus	*	3,002	2,673	3,169	3,027	-4.48%
Comet	*	1,970	1,740	1,663	1,863	12.03%
Crystal	1,927	1,971	*	*	*	
El Dorado [®]	1,463	1,352	1,590	1,778	1,766	-0.67%
Eureka! [™]	2,299	2,243	2,184	2,433	2,200	-9.58%
Galena	1,715	1,773	*	*	*	
Hallertauer	*	1,253	614	1,272	1,649	29.64%
Idaho 7 [™]	*	2,562	2,442	2,837	2,588	-8.78%
Mosaic [®] , HBC 369	2,333	2,296	2,335	2,141	2,103	-1.77%
Mt. Rainier	*	*	*	985	1,364	38.48%
Northern Brewer	*	1,407	1,432	1,266	*	
Saaz	*	771	*	620	955	54.03%
Simcoe [®] , YCR 14	1,245	1,164	992	1,121	1,208	7.76%
Super Galena [™]	2,493	2,737	2,851	2,127	*	
Triumph	*	*	365	1,063	871	-18.06%
Willamette	*	1,695	*	1,311	1,393	6.25%
Zeus	2,764	2,672	*	*	*	
Experimental	*	*	*	*	*	
Other Varieties ²	1,845	1,971	1,567	1,725	1,587	-8.00%
Total Idaho ¹	1,995	2,034	1,855	1,900	1,734	-8.74%
OREGON						
Amarillo [®] , VGXP01	*	2,312	2,360	2,186	1,870	-14.46%
Cascade	1,623	1,620	1,639	1,595	1,578	-1.07%
Centennial	1,277	1,661	1,675	1,384	1,575	13.80%
Chinook	1,674	1,733	1,481	1,794	1,543	-13.99%
Citra [®] , HBC 394	1,600	1,476	1,506	1,414	1,562	10.47%
Crystal	1,819	1,943	*	1,816	1,739	-4.24%
Eureka! [™]	*	*	*	2,292	*	
Fuggle	1,034	1,243	*	*	*	
Golding	1,160	1,351	*	927	*	
Hallertau Magnum	1,284	*	*	*	*	
Liberty	*	*	2,289	1,506	*	
Mosaic [®] , HBC 369	*	2,113	2,155	2,077	2,059	-0.87%
Mt. Hood	1,411	1,538	1,551	1,624	1,252	-22.91%
Mt. Rainier	*	*	*	*	1,473	
Nugget	1,946	2,130	1,841	2,162	2,085	-3.56%
Perle	1,093	*	*	*	*	
Sabro [™] , HBC 438	*	*	870	1,749	1,996	14.12%
Simcoe [®] , YCR 14	1,588	1,845	1,823	1,643	1,646	0.18%
Sterling	1,760	1,643	1,728	1,321	1,559	18.02%
Strata [™] OR 91331	*	2,066	2,068	1,889	2,000	5.88%
Super Galena [™]	2,216	2,580	2,801	*	*	
Talus [™] , HBC 692	*	*	*	*	1,483	
Tettnanger	1,027	*	*	*	*	
Willamette	1,484	1,717	1,857	1,461	1,489	1.92%
Other Varieties ²	2,068	1,644	1,479	1,780	1,567	-11.97%
Total Oregon	1,675	1,783	1,755	1,705	1,728	1.35%

(continued next page)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2021-2022
	2018	2019	2020	2021	2022	% +/-
WASHINGTON						
Ahtanum™, YCR 1	2,730	2,820	2,134	2,211	2,032	-8.10%
Amarillo®, VGXP01	1,868	1,946	1,649	1,659	1,486	-10.43%
Apollo™	2,848	2,735	2,248	2,949	2,483	-15.80%
Azacca™, ADHA-483	2,491	2,441	1,527	1,909	1,559	-18.33%
Bravo™	3,258	3,216	2,308	2,759	2,161	-21.67%
Calypso™	3,075	3,140	2,437	2,930	*	
Cascade	1,972	1,920	1,551	1,585	1,477	-6.81%
Cashmere	1,519	1,699	1,514	1,395	1,521	9.03%
Centennial	1,364	1,820	1,640	1,585	1,464	-7.63%
Chinook	1,875	1,942	1,665	1,851	1,335	-27.88%
Citra®, HBC 394	1,611	1,424	1,526	1,580	1,365	-13.61%
Cluster	1,813	1,815	2,065	2,016	1,505	-25.35%
Columbus/Tomahawk®/Zeus	2,482	2,584	2,176	2,656	2,256	-15.06%
Comet	1,750	1,311	872	1,632	1,299	-20.40%
Crystal	2,357	1,989	*	*		
Ekuanot™, HBC 366	2,583	2,483	2,158	2,608	2,153	-17.45%
El Dorado®	1,880	2,032	1,516	1,876	1,685	-10.18%
Eureka!™	2,954	3,188	2,332	3,022	2,205	-27.04%
Galena	2,149	2,045	1,838	*	*	
Glacier	*	*	*	*	*	
Idaho 7™	*	1,544	1,736	3,197	2,755	-13.83%
Jarrylo™, ADHA-881	*	*	1,428	*	*	
Loral™, HBC 291	2,349	2,515	1,874	2,088	1,843	-11.73%
Mosaic®, HBC 369	2,351	2,054	1,998	2,129	1,963	-7.80%
Mt. Hood	1,454	1,037	1,139	1,139	573	-49.69%
Mt. Rainier	1,899	2,149	1,586	*	1,563	
Nugget	1,498	2,313	*	*	*	
Pahto™, HBC 682	2,087	2,398	2,019	2,463	2,132	-13.44%
Palisade®, YCR-4	2,441	2,520	2,114	1,866	1,842	-1.29%
Pekko™, ADHA-871	1,889	*	1,239	2,072	1,882	-9.17%
Sabro™, HBC 438	*	1,612	1,886	1,886	2,052	8.80%
Simcoe®, YCR 14	1,642	1,788	1,643	1,646	1,380	-16.16%
Sorachi Ace	1,042	*	*	*	*	
Summit™	1,826	1,816	1,096	1,351	*	
Super Galena™	3,133	2,871	2,636	2,849	2,838	-0.39%
Tahoma	2,147	1,958	1,588	1,055	1,310	24.17%
Talus™, HBC 692	*	*	*	*	1,703	
Tettnanger	*	*	*	*	*	
Warrior®, YCR 5	*	*	1,669	2,240	1,610	-28.13%
Willamette	1,348	1,596	1,458	*	991	
Zappa™	*	*	*	*	839	
Zeus	2,619	2,620	*	*	*	
Experimental	1,889	2,251	1,207	1,713	1,717	0.23%
Other Varieties ²	1,896	1,888	1,737	1,934	1,577	-18.46%
Total Washington	1,984	2,006	1,754	1,932	1,679	-13.10%
Total Pacific Northwest	1,943	1,981	1,770	1,900	1,694	-10.84%

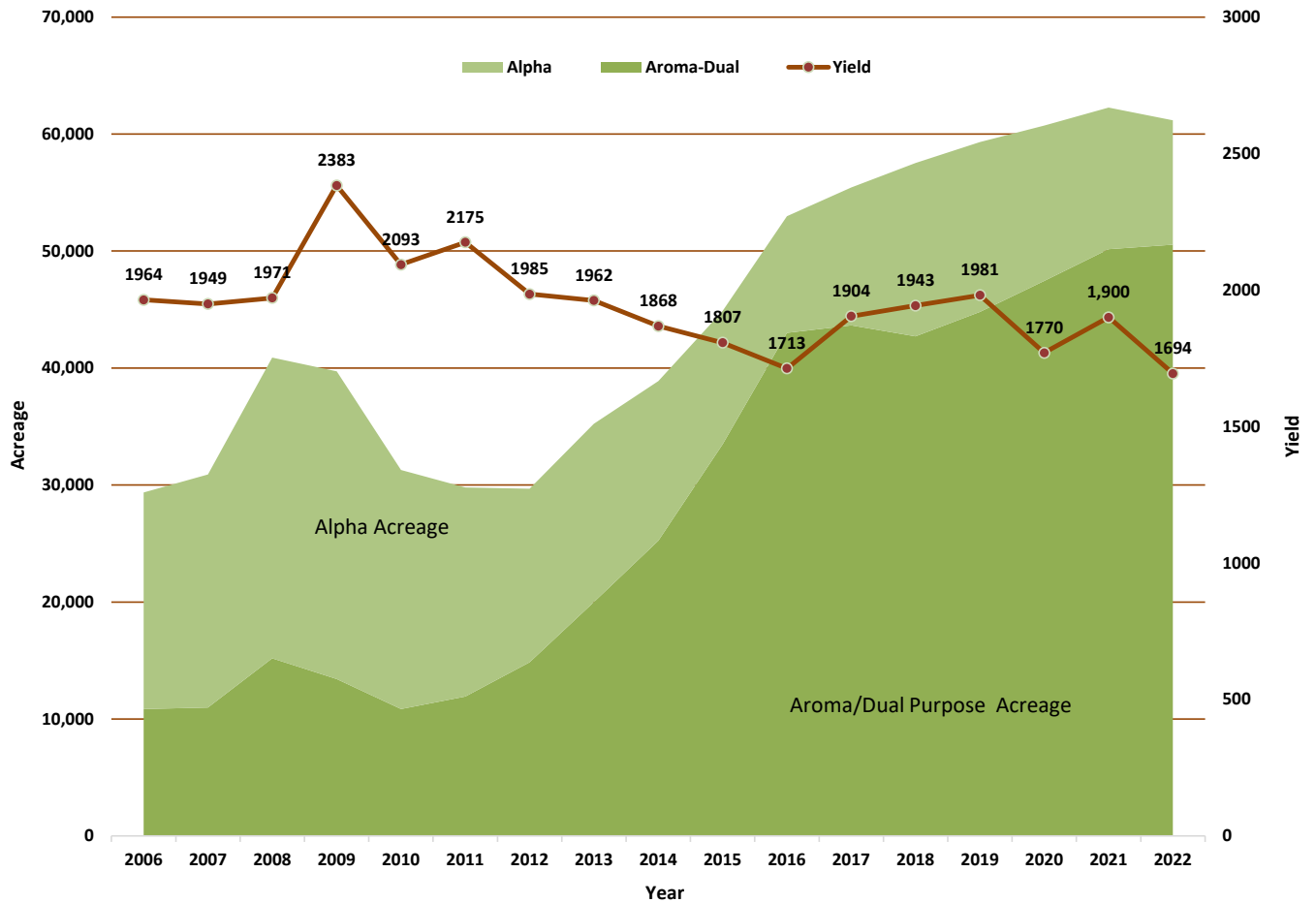
SOURCE: USDA-NASS. Prepared by HGA. State and variety yields for production outside of the Pacific Northwest are not reported. "Other Varieties" includes data to avoid disclosure of individual operations.

PACIFIC NORTHWEST AVERAGE HOP YIELD (TEN YEARS)

YEAR	POUNDS PER ACRE			
	WASHINGTON	OREGON	IDAHO	TOTAL
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
2021	1,932	1,705	1,900	1,900
2022	1,679	1,728	1,734	1,694

SOURCE: USDA-NASS. Prepared by HGA.

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



HOP PRODUCTION BY STATE AND VARIETY (FIVE YEARS)

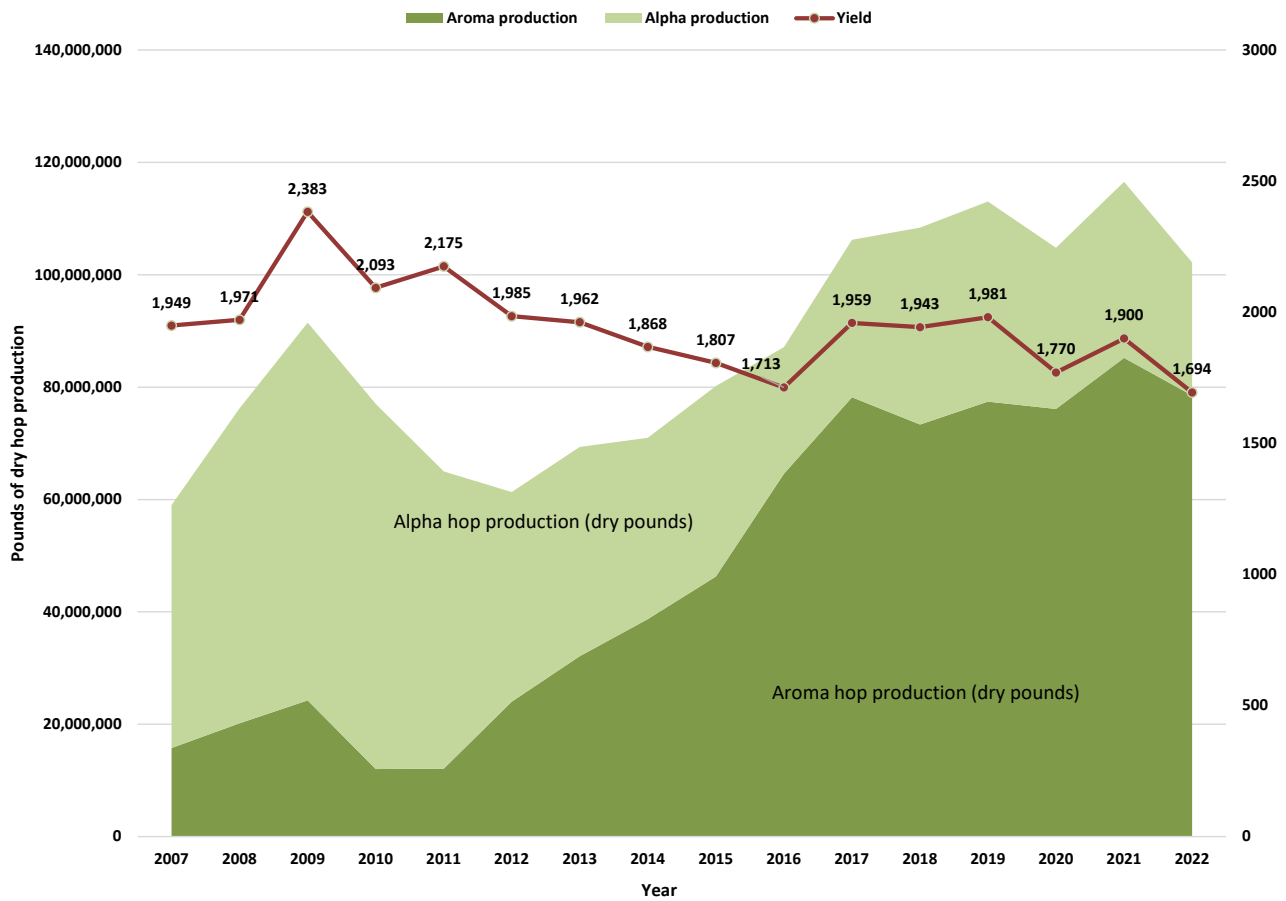
STATE & VARIETY	HOP PRODUCTION (POUNDS)					2021-22
	2018	2019	2020	2021	2022	% +/-
IDAHO						
Amarillo [®] , VGXP01	1,657,400	875,200	847,900	688,900	552,600	-19.79%
Apollo [™]	452,600	473,712	364,117	*	*	
Bravo [™]	193,700	139,225	14,725	*	*	
Calypso [™]	173,200	154,000	104,209	104,600	*	
Cascade	1,434,600	1,294,300	493,700	746,800	1,262,400	69.04%
Cashmere	*	*	197,300	226,700	227,100	0.18%
Centennial	*	*	*	*	*	
Chinook	1,801,800	1,741,000	1,007,100	1,096,200	795,100	-27.47%
Citra [®] , HBC 394	1,229,500	1,490,600	2,574,500	2,462,900	2,677,000	8.69%
Cluster	133,900	*	*	*	*	
Columbus/Tomahawk [®] /Zeus	4,134,900	4,607,600	3,894,600	3,314,800	1,574,000	-52.52%
Comet	*	220,600	161,800	242,800	268,300	10.50%
Crystal	289,100	258,200	*	*	*	
El Dorado [®]	175,600	475,900	836,300	1,104,100	536,900	-51.37%
Eureka! [™]	305,800	415,000	408,450	847,300	921,800	8.79%
Galena	186,900	200,300	*	*	*	
Hallertauer	*	31,300	97,600	202,200	262,200	29.67%
Idaho 7 [™]	*	994,100	1,377,300	1,679,500	988,600	-41.14%
Mosaic [®] , HBC 369	1,180,500	1,839,100	2,769,300	2,954,600	3,028,300	2.49%
Mt. Rainier	*	*	*	82,700	115,900	40.15%
Northern Brewer	*	80,200	83,100	73,400	*	
Saaz	*	107,900	*	204,600	362,900	77.37%
Simcoe [®] , YCR 14	559,000	545,900	421,600	434,900	532,700	22.49%
Super Galena [™]	209,400	*	179,635	*	*	
Triumph	*	*	14,200	76,500	47,900	-37.39%
Willamette	*	288,200	*	510,000	639,400	25.37%
Experimental	*	*	*	*	*	
Other Varieties	2,124,900	591,128	1,342,664	1,361,300	1,279,400	-6.02%
Total Idaho	16,242,800	16,823,465	17,190,100	18,414,800	16,072,500	-12.72%
OREGON						
Amarillo [®] VGXP01	*	490,100	509,800	421,900	392,700	-6.92%
Cascade	1,726,900	1,683,200	1,235,800	1,062,300	1,038,300	-2.26%
Centennial	891,300	1,019,900	819,100	503,800	598,500	18.80%
Chinook	215,900	197,600	127,400	141,700	138,900	-1.98%
Citra [®] , HBC 394	1,104,000	1,473,000	1,998,500	2,081,400	2,641,300	26.90%
Crystal	643,900	479,900	*	288,700	332,100	15.03%
Eureka! [™]	*	*	*	71,100	*	
Fuggle	61,000	78,300	*	*	*	
Golding	140,400	124,300	*	72,300	*	
Hallertau Magnum	134,800	*	*	*	*	
Liberty	*	*	128,200	81,300	*	
Mosaic [®] , HBC 369	*	1,010,000	1,282,200	1,753,000	1,855,200	5.83%
Mt. Hood	438,800	453,700	246,600	199,800	214,100	7.16%
Mt. Rainier	*	*	*	175,000	191,500	9.43%
Nugget	2,543,400	2,255,700	1,520,700	1,236,700	919,500	-25.65%
Perle	84,200	*	*	*	*	
Sabro [™] , HBC 438	*	*	64,400	393,500	237,500	-39.64%
Simcoe [®] , YCR 14	692,400	811,800	864,100	819,900	867,400	5.79%
Sterling	336,200	241,500	100,200	76,600	54,600	-28.72%
Strata [™] OR 91331	*	522,700	1,000,900	1,573,500	2,286,000	45.28%
Super Galena [™]	186,100	201,200	243,700	45,700	*	
Talus [™] , HBC 692	*	*	*	*	68,200	
Tettnanger	73,900	*	*	*	*	
Willamette	1,359,500	1,062,800	1,123,500	651,600	701,300	7.63%
Other Varieties	2,303,500	917,500	1,203,600	958,100	865,200	-9.70%
Total Oregon	12,936,200	12,533,100	12,468,700	12,607,900	13,402,300	6.30%
(continued next page)						

STATE & VARIETY	HOP PRODUCTION (POUNDS)					2021-22
	2018	2019	2020	2021	2022	% +/-
WASHINGTON						
Ahtanum	696,200	736,000	490,800	367,000	341,400	-6.98%
Amarillo [®] , VGXP01	3,539,900	3,107,800	2,300,400	2,213,100	1,967,500	-11.10%
Apollo [™]	2,264,200	2,327,500	1,686,000	2,256,300	2,003,800	-11.19%
Azacca [™] , ADHA-483	1,360,100	1,437,700	1,102,500	1,393,600	1,357,900	-2.56%
Bravo [™]	912,200	759,000	463,900	656,600	438,700	-33.19%
Calypso [™]	319,800	326,600	280,242	337,000	*	
Cascade	8,428,300	7,138,600	4,462,200	5,045,100	5,323,100	5.51%
Cashmere	296,200	526,700	678,300	962,600	1,090,600	13.30%
Centennial	5,285,500	5,516,400	4,008,200	3,135,100	2,992,400	-4.55%
Chinook	3,251,300	2,790,700	1,969,700	2,173,100	1,926,400	-11.35%
Citra [®] , HBC 394	7,792,400	9,569,300	12,426,200	13,850,300	11,719,900	-15.38%
Cluster	1,105,900	853,100	852,800	786,200	430,400	-45.26%
Columbus/Tomahawk [®] /Zeus	11,836,800	12,846,000	10,507,900	12,013,100	9,019,500	-24.92%
Comet	381,500	275,300	287,800	630,000	424,800	-32.57%
Crystal	268,700	131,300	*	*	*	
Ekuanot [™] , HBC 366	2,234,300	1,569,300	1,383,300	993,600	790,200	-20.47%
El Dorado [®]	785,800	1,302,500	1,603,900	2,088,000	1,450,800	-30.52%
Eureka! [™]	1,208,200	1,354,900	1,084,400	1,408,300	1,256,900	-10.75%
Galena	838,100	607,400	443,000	*	*	
Glacier	*	*	*	*	*	
Idaho 7 [™]	*	131,200	592,000	1,240,400	435,300	-64.91%
Jarrylo [™] , ADHA-881	*	*	24,300	*	*	
Loral [™] , HBC 291	404,000	314,400	307,300	411,300	366,800	-10.82%
Mosaic [®] , HBC 369	4,542,100	5,810,800	7,422,600	8,926,900	8,166,100	-8.52%
Mt. Hood	151,200	55,000	54,700	*	24,100	
Mt. Rainier	581,100	513,600	353,700	341,700	331,400	-3.01%
Nugget	188,700	240,600	*	*	*	
Pahto [™] , HBC 682	3,591,700	5,057,400	4,458,000	5,206,800	3,643,600	-30.02%
Palisade [®] , YCR-4	1,257,100	1,202,000	520,000	621,400	694,400	11.75%
Pekko [™] , ADHA-871	173,800	*	992,400	2,217,000	2,040,100	-7.98%
Sabro [™] , HBC 438	*	1,167,100	2,159,500	2,471,800	1,124,500	-54.51%
Simcoe [®] , YCR 14	5,095,100	6,020,200	5,280,600	5,221,100	4,821,700	-7.65%
Sorachi Ace	152,100	*	*	*	*	
Summit [™]	2,874,100	1,946,800	701,400	590,400	*	
Super Galena [™]	1,566,500	1,358,000	1,252,100	1,367,500	1,004,700	-26.53%
Tahoma	448,700	450,300	281,100	409,300	501,700	22.58%
Talus [™] , HBC 692	*	*	*	*	642,000	
Tettnanger	*	*	*	*	*	
Warrior [®] , YCR 5	*	*	472,300	286,700	236,700	-17.44%
Willamette	506,800	430,900	296,000	158,400	122,900	-22.41%
Zappa [™]	*	*	*	*	57,900	
Experimental	706,500	810,400	546,800	985,000	1,205,300	22.37%
Other Varieties	2,682,800	3,330,100	2,405,158	3,843,500	3,858,000	0.38%
Total Washington	77,727,700	82,014,900	74,151,500	84,608,200	71,811,500	-15.12%
Total Pacific Northwest	106,906,700	111,371,465	103,810,300	115,630,900	101,286,300	-12.41%
Other States Estimate ¹	1,500,000	1,000,000	1,000,000	900,000	900,000	0.00%
Total US Estimate	108,406,700	112,371,465	104,810,300	116,530,900	102,186,300	-12.31%

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

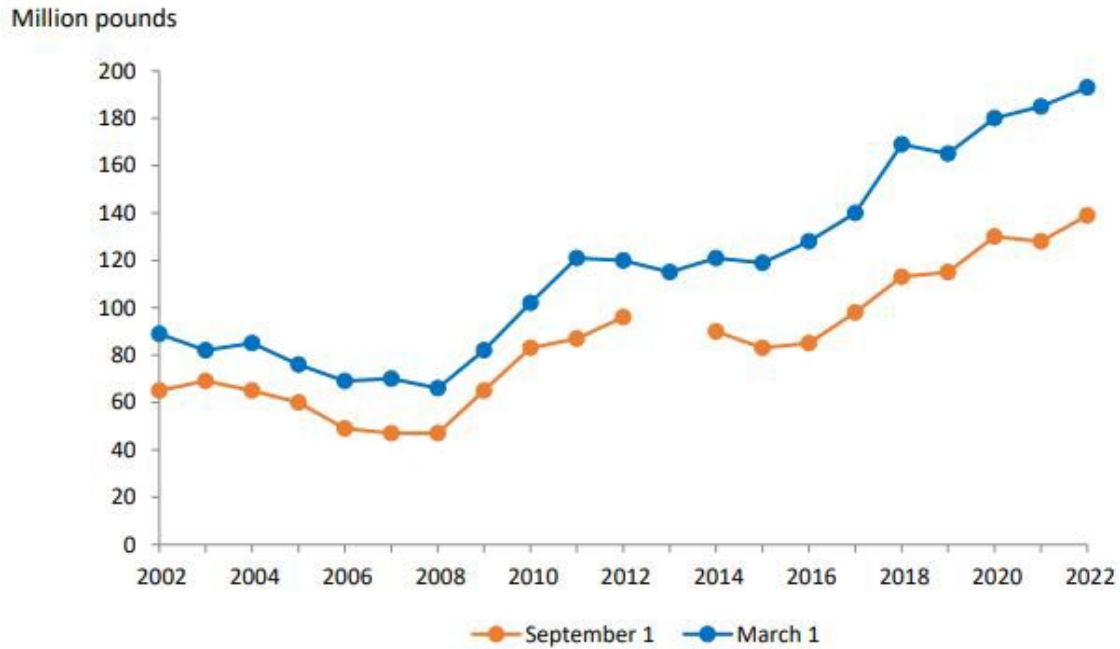


U.S. HOPS: ESTIMATED SEASON AVERAGE PRICE & TOTAL CROP VALUE

Marketing Year	SEASON AVERAGE PRICE				PNW	Total Crop
	Washington	Oregon	Idaho	U.S.	Production	Value
	----- (\$ / pound) -----				(Lbs. x 1,000)	(x 1,000)
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
2021	\$5.70	\$5.90	\$5.70	\$5.72	115,631	\$661,618
2022	\$6.05	\$6.35	\$6.10	\$6.10	101,286	\$617,607

SOURCE: USDA-NASS. Prepared by HGA.

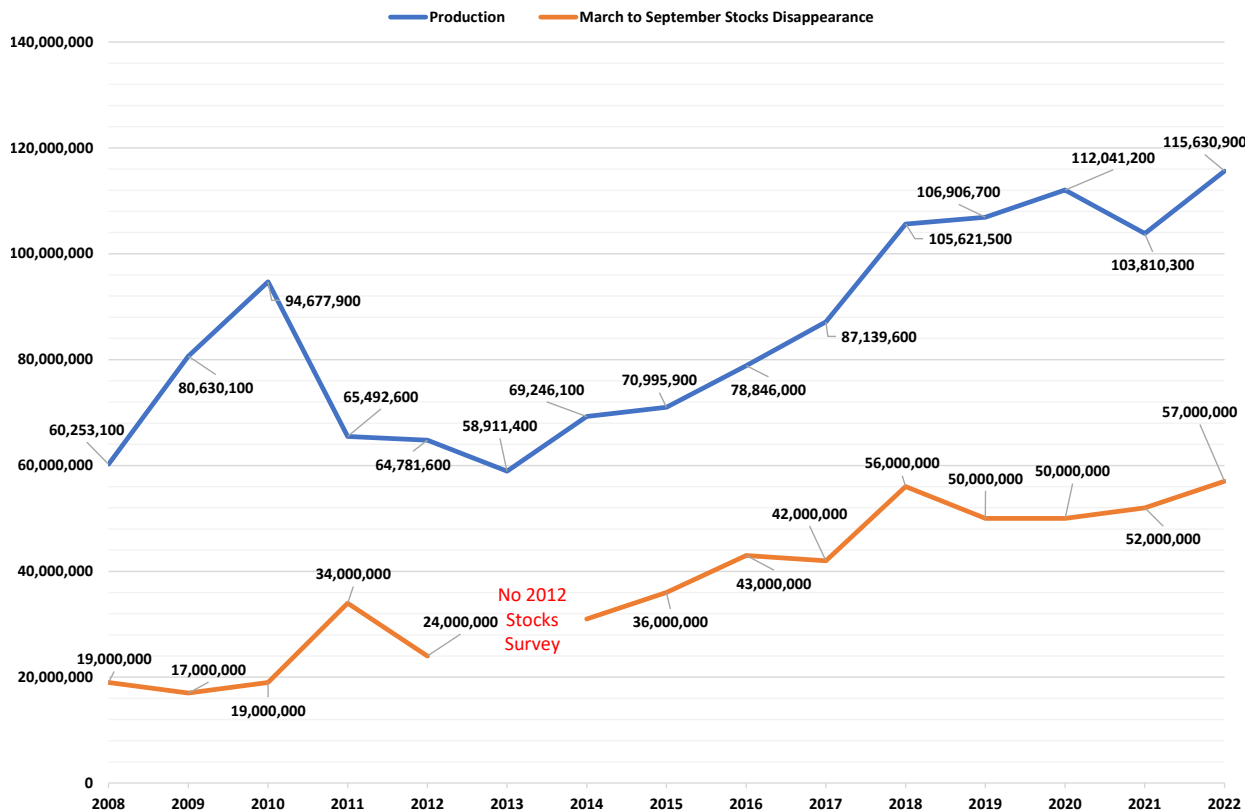
U.S. HOPS STOCKS



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

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.

2022 HOP INSPECTION REPORT

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
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
2021	436,042	62,643	90,994	589,679
2022	361,305	68,284	78,803	508,392

TABLE 2. Number of Bales in Each Leaf & Stem Category – 2022

	0%	1%	2%	3%	4%	5%	6%	7%	TOTAL	AVERAGE
WA	303,694	54,919	2,445	247	0	0	0	0	361,305	0.17%
OR	65,648	2,178	272	186	0	0	0	0	68,284	0.05%
ID	59,582	14,842	4,080	299	0	0	0	0	78,803	0.30%
Total	428,924	71,939	6,797	732	0	0	0	0	508,392	0.17%
% of Total	84%	14%	1%	0%	0%	0%	0%	0%	100%	

TABLE 3. Number of Bales in Each Seed Category – 2022

	0%	1%	2%	3%	4%	5%	6%	7+%	TOTAL	AVERAGE
WA	352,794	7,240	1,059	0	128	40	0	44	361,305	0.03%
OR	40,061	10,462	4,749	5,342	1,778	1,743	615	3,534	68,284	1.23%
ID	75,836	1,543	1,274	150	0	0	0	0	78,803	0.06%
Total	468,691	19,245	7,082	5,492	1,906	1,783	615	3,578	508,392	0.19%
% of Total	92%	4%	1%	1%	0%	0%	0%	1%	100%	

SOURCE: State Hop Inspection Labs. Prepared by HGA.

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

Year	WASHINGTON	OREGON	IDAHO	U.S. AVERAGE %	
	Leaf & Stem	Leaf & Stem	Leaf & Stem	Leaf & Stem	Seed Content
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%	0.58%	0.30%	0.67%
2021	0.38%	0.09%	0.65%	0.39%	0.97%
2022	0.17%	0.05%	0.30%	0.17%	0.19%

SOURCE: State Hop Inspection Labs. Prepared by HGA.

2022 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
Helios™ (EXP15619)	HLO	Ultra	ULT
Horizon	HOR	Vanguard	VAN
Idaho7®	ID7	Vista	VTA
Idaho Gem™	IDG	Warrior® Brand YCR 5	WAR
Jarrylo®, ADHA-881	JAR	Willamette	WIL
Lemondrop™	LDP	Yakima Gold	YKG
Liberty	LIB	YQH1320	Y20
Loral® Brand HBC 291	LOR	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)					2021-22
	2018	2019	2020	2021	2022	% +/-
Argentina	247	247	314	324	324	0.00%
Australia	1,184	1,176	1,354	1,460	1,675	14.72%
Austria	470	479	487	487	494	1.52%
Belgium	311	306	306	306	306	0.00%
Bulgaria			44	44	44	0.00%
Canada	541	541	494	494	494	0.00%
China	988	988	890	890	1,154	29.72%
Czech Rep.	11,562	11,629	11,454	11,419	11,434	0.13%
France	1,048	1,087	1,021	1,107	1,114	0.67%
Germany	26,742	26,836	27,115	26,384	26,073	-1.18%
Japan	148	131	131	131	131	0.00%
New Zealand	917	1,478	1,478	1,478	1,478	0.00%
Poland	1,628	1,596	1,606	1,515	1,310	-13.54%
Romania	180	185	185	180	180	0.00%
Russia	544	415	415	415	415	0.00%
Serbia	84	0	20	20	0	0.00%
Slovakia	339	319	94	94	94	0.00%
Slovenia	3,771	3,707	3,410	3,477	3,595	3.41%
South Africa	180	180	180	230	210	-8.60%
Spain	0	0	0	15	15	0.00%
Ukraine	764	764	764	764	764	0.00%
UK - England	2,387	1,945	1,757	1,310	1,265	-3.40%
USA	42,639	44,425	47,456	50,148	50,544	0.79%
IHGC Total	96,675	98,436	100,975	102,691	103,114	0.41%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2022 National Hop Report, released in December 2022. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC ALPHA ACREAGE (FIVE YEARS)

COUNTRY	ALPHA ACREAGE (IN ACRES)					2021-22
	2018	2019	2020	2021	2022	% +/-
Argentina	148	148	146	116	116	0.00%
Australia	376	435	376	269	269	0.00%
Austria	143	143	143	143	141	-1.72%
Belgium	133	143	143	143	143	0.00%
Bulgaria			37	37	37	0.00%
Canada	494	494	371	371	371	0.00%
China	5,642	5,642	4,942	4,942	5,108	3.35%
Czech Rep.	111	121	151	151	138	-8.20%
France	96	64	119	124	131	6.00%
Germany	20,918	22,025	22,620	22,915	23,616	3.06%
Japan	148	131	131	131	131	0.00%
New Zealand	175	358	358	358	358	0.00%
Poland	2,268	2,511	2,745	2,829	2,916	3.06%
Romania	487	457	465	472	479	1.57%
Russia	494	183	183	183	183	0.00%
Serbia	82	20	0	0	0	0.00%
Slovakia	0	0	0	0	0	0.00%
Slovenia	52	52	57	59	62	4.17%
South Africa	875	875	875	783	781	-0.32%
Spain	1,327	1,322	1,156	1,386	1,386	0.00%
Ukraine	148	148	148	148	148	0.00%
UK - England	418	423	388	346	339	-2.14%
USA	14,829	14,505	13,262	12,111	10,633	-12.20%
IHGC Total	49,365	50,200	48,816	48,019	47,487	-1.11%

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2022 National Hop Report, released in December 2022. Numbers may not total exactly due to rounding and standard/metric conversions.

IHGC TOTAL ACREAGE (5 YEARS)

COUNTRY	TOTAL ACREAGE (IN ACRES)					2021-22
	2018	2019	2020	2021	2022	% +/-
Argentina	395	395	460	440	440	0.00%
Australia	1,611	1,730	1,836	1,945	2,271	16.77%
Austria	623	623	630	638	650	1.94%
Belgium	452	450	450	450	450	0.00%
Bulgaria			82	82	82	0.00%
Canada	1,035	1,035	865	865	865	0.00%
China	6,630	6,630	5,832	5,832	6,262	7.37%
Czech Rep.	12,405	12,363	12,271	12,284	12,215	-0.56%
France	1,226	1,248	1,236	1,376	1,352	-1.80%
Germany	49,778	50,452	51,167	50,957	50,915	-0.08%
Japan	297	262	262	262	262	0.00%
New Zealand	1,312	1,836	1,836	1,836	1,836	0.00%
Poland	3,894	4,156	4,344	4,344	4,226	-2.73%
Romania	684	650	655	660	667	1.12%
Russia	1,161	628	628	628	628	0.00%
Serbia	195	20	20	20	20	0.00%
Slovakia	339	329	94	94	94	0.00%
Slovenia	4,119	3,944	3,657	3,793	4,018	5.93%
South Africa	1,055	1,055	1,050	1,013	1,011	-0.24%
Spain	1,327	1,322	1,374	1,404	1,431	1.94%
Ukraine	912	912	912	912	912	0.00%
UK - England	2,387	2,367	2,142	1,656	1,604	-3.13%
USA	57,468	58,930	60,718	62,259	61,177	-1.74%
IHGC Total	149,306	151,337	152,519	153,747	153,384	-0.24%

Note: Totals may not match the sum of aroma and alpha acreage presented in preceding charts due to inclusion of new acreage not strung for harvest in the IHGC Total Acreage figures.

IHGC HOP ACREAGE AND PRODUCTION 2022

COUNTRY	2022 HOP ACREAGE (acres)				2022 HOP PRODUCTION (pounds)			
	AROMA	ALPHA	NEW	TOTAL	AROMA	ALPHA	TOTAL	Alpha MT.
Argentina	324	116	0	440	529,104	187,391	716,495	29
Australia	1,675	269	326	2,271	3,657,431	363,759	4,021,190	279
Austria	494	141	15	650	760,587	231,483	992,070	33
Belgium	306	143	0	450	238,097	213,846	451,943	27
Bulgaria	44	37	0	82	77,161	50,706	127,867	6
Canada	494	371	0	865	725,313	661,380	1,386,693	53
China	1,154	5,108	133	6,262	1,984,140	12,786,680	14,770,820	600
Czech Rep.	11,434	138	642	12,215	9,259,320	220,460	9,479,780	170
France	1,114	131	106	1,352	1,327,169	171,959	1,499,128	27
Germany	26,073	23,616	1,223	50,915	30,423,480	44,973,840	75,397,320	3,725
Japan	131	131	0	262	180,777	264,552	445,329	25
New Zealand	1,478	358	818	1,836	2,204,600	551,150	2,755,750	115
Poland	1,310	2,916	0	4,226	1,653,450	4,673,752	6,327,202	310
Romania	180	479	7	667	132,276	275,575	407,851	17
Russia	415	183	30	628	440,920	330,690	771,610	20
Serbia	0	0	0	20	0	0	0	3
Slovakia	94	0	0	94	44,092	0	44,092	1
Slovenia	3,595	62	361	4,018	4,850,120	154,322	5,004,442	118
South Africa	210	781	20	1,011	350,531	1,305,123	1,655,655	108
Spain	15	1,386	30	1,431	30,864	2,173,736	2,204,600	113
Ukraine	764	148	0	912	881,840	176,368	1,058,208	30
England	1,265	339	0	1,604	1,075,845	332,895	1,408,739	45
USA	50,544	10,633	0	61,177	78,540,412	23,645,888	102,186,300	5,191
IHGC Total	103,114	47,487	3,712	153,384	139,367,531	93,745,554	233,113,085	11,045

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2022 National Hop Report., released in December 2022. 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.

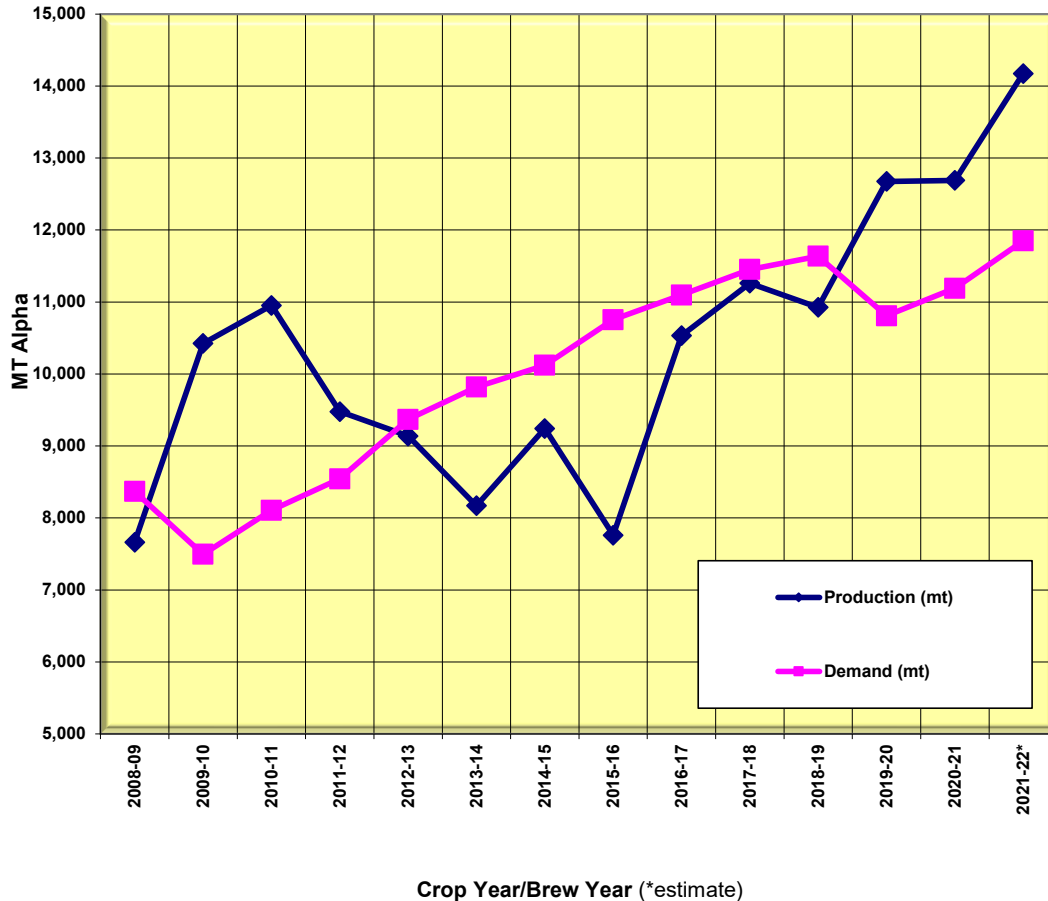
U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)

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	MT Alpha EBC 7.4	Avg. Alpha %*
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%	103,347	46,878	5,438	11.6%
2021	116,531	52,858	5,920	11.2%	104,851	47,520	6,191	13.0%
2022*	102,186	46,351	5,191	11.8%	75,397	34,200	3,725	10.9%

*2022 figures are estimated at time of publication.

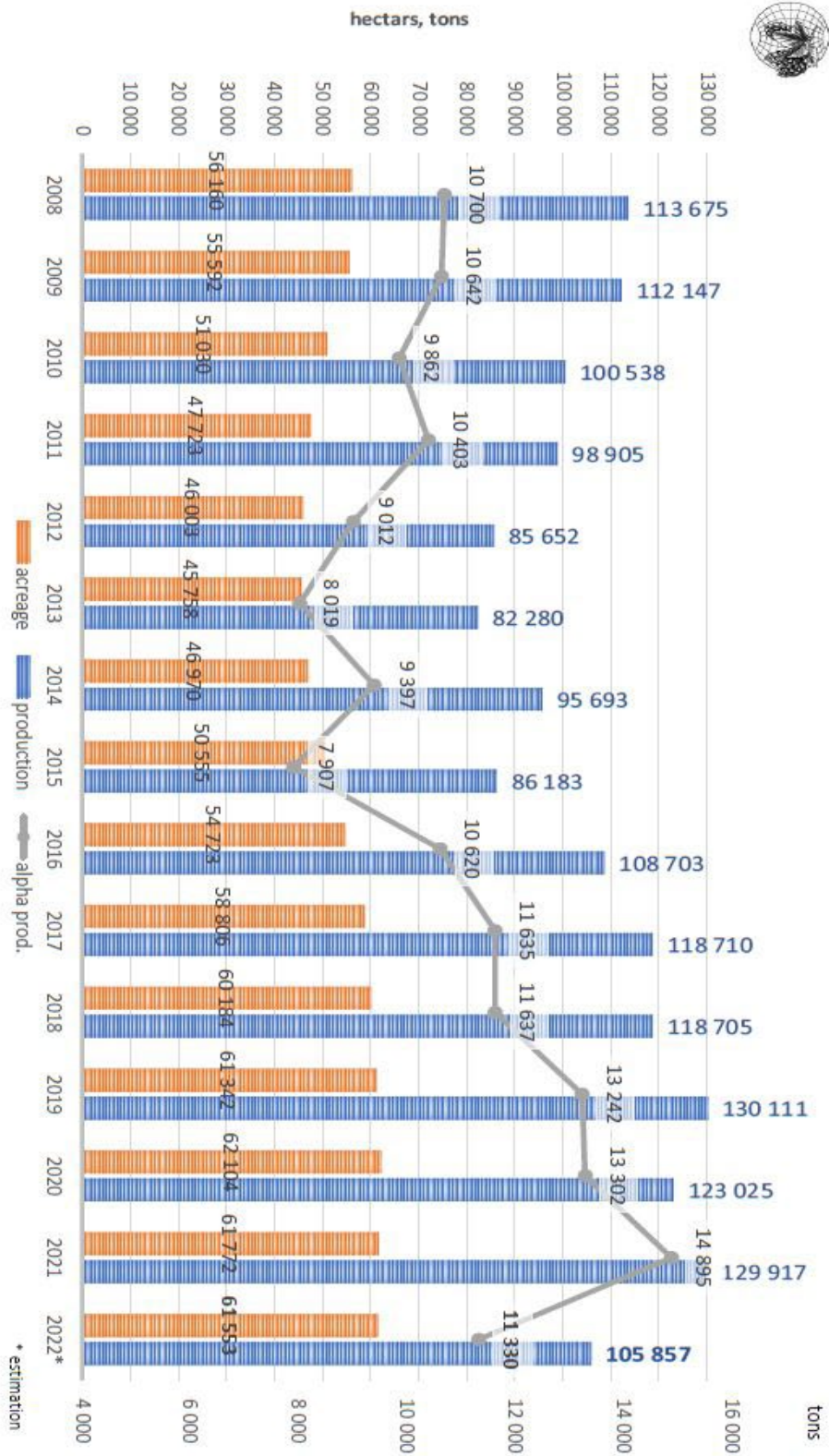
US figures include an estimate for non-PNW states, added to the Pacific Northwest production estimated by US hop merchant sources, based on EBC 7.4 method of analysis. Conversion factor of 90% is used to convert Spectro to EBC 7.4. German estimated alpha figure was also provided by hop merchant contacts.

WORLD ALPHA PRODUCTION & DEMAND



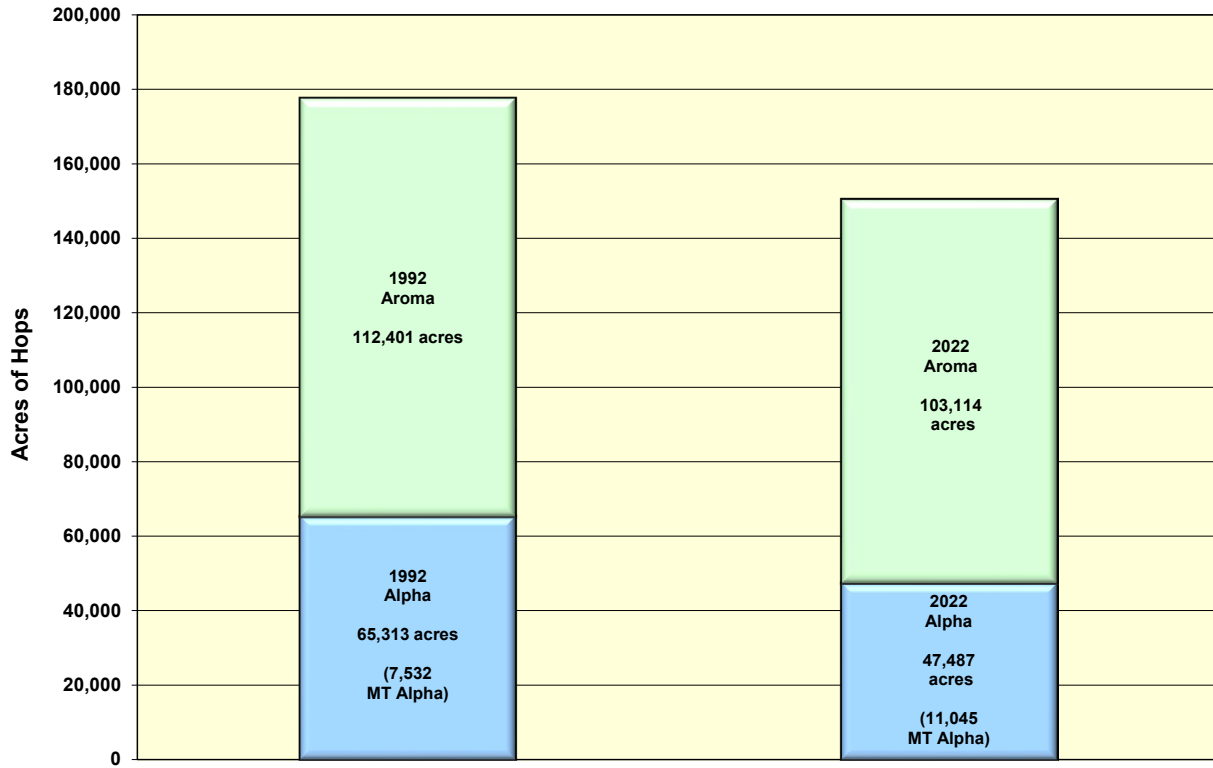
SOURCE: BarthHaas Report. 2021-2022. Prepared by HGA.

COMPARISON OF IHGC CROPS 2008-2022



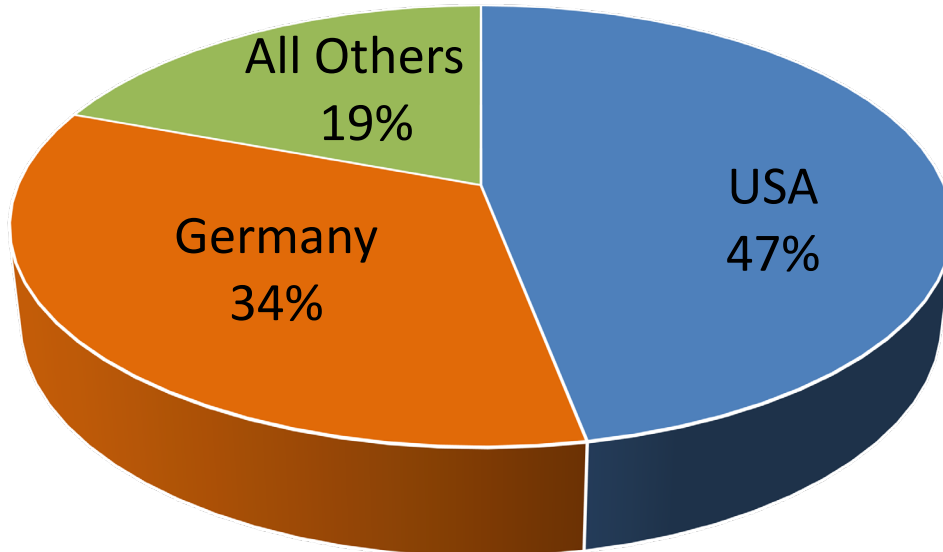
SOURCE: IHGC November Report. Prepared by HGA.

COMPOSITION OF WORLD HOP ACREAGE - 1992 VERSUS 2022



SOURCE: IHGC November Report and USDA-NASS December 2022 National Hop Report. Prepared by HGA.

WORLD'S LARGEST ALPHA PRODUCERS – 2022



SOURCE: IHGC November Report. Prepared by HGA.

WORLD HOP ACREAGE & PERCENT SHARE (acres)

COUNTRY	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
USA	35,288	38,892	45,238	52,980	55,681	57,468	58,930	61,027	62,259	61,177
	32%	34%	38%	39%	38%	38%	39%	40%	40%	40%
Germany	38,895	39,782	41,253	45,958	48,293	49,778	50,452	51,167	50,957	50,915
	35%	34%	34%	34%	33%	33%	33%	34%	33%	33%
Czech Rep.	10,178	10,018	10,359	11,800	12,220	12,405	12,363	12,271	12,284	12,215
	9%	9%	9%	9%	8%	8%	8%	8%	8%	8%
China	7,413	6,548	5,684	4,942	6,630	6,630	6,630	5,832	5,832	6,262
	7%	6%	5%	4%	5%	4%	4%	4%	4%	4%
England	2,597	2,291	2,209	2,212	2,390	2,387	2,367	2,145	1,656	1,604
	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Europe (rest)	11,897	14,881	11,711	13,015	13,515	13,771	13,653	13,245	13,771	13,900
	11%	13%	10%	10%	9%	9%	9%	9%	9%	9%
World (rest)	3,650	3,508	3,544	3,793	5,552	5,831	5,906	6,104	6,123	7,312
	3%	3%	3%	3%	4%	4%	4%	4%	4%	5%
World Totals	109,918	115,920	119,994	134,700	145,316	149,305	151,337	152,656	153,747	153,384

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 2022 report. US hop acreage updated to reflect USDA-NASS National Hop Report, released in December 2022.

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

COUNTRY	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
USA	69,343	70,997	80,203	88,616	106,240	108,407	113,041	104,810	116,531	102,186
	39%	34%	42%	37%	41%	42%	40%	39%	40%	44%
Germany	60,746	84,657	62,170	94,136	91,614	91,932	106,703	103,616	104,763	75,397
	34%	41%	33%	40%	35%	35%	38%	38%	36%	32%
Czech	11,750	13,007	10,582	15,653	14,985	11,243	15,212	13,117	18,519	9,480
	7%	6%	6%	7%	6%	4%	5%	5%	6%	4%
China	13,228	13,228	13,228	9,921	15,529	15,529	15,529	15,529	15,529	14,771
	7%	6%	7%	4%	6%	6%	5%	6%	5%	6%
England	2,723	2,205	2,866	3,197	3,924	3,036	3,739	2,037	2,011	1,409
	2%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Europe (rest)	14,202	17,791	14,874	18,466	19,440	20,035	19,204	20,287	19,676	18,117
	8%	9%	8%	8%	7%	8%	7%	7%	7%	8%
World (rest)	6,446	6,231	6,444	6,351	9,976	10,450	10,470	11,530	11,096	11,753
	4%	3%	3%	3%	4%	4%	4%	4%	4%	5%
World Totals	178,438	208,116	190,367	236,340	261,708	260,632	283,898	270,927	288,124	233,113

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 2022 report. Prepared by HGA.

EXPORTS OF U.S. HOPS(INCLUDING EXTRACT), TOP 40 COUNTRIES (2018-2022)

Rank	Destination Partner	September-August Quantities (MT)				
		2018	2019	2020	2021	2022
1	Belgium-Luxembourg	2,138.90	2,467.20	2,318.90	3,151.40	3,884.30
2	Germany	1,677.90	1,896.60	2,226.50	2,127.60	2,327.70
3	United Kingdom	2,556.60	2,028.20	1,973.90	2,110.60	2,288.90
4	Brazil	1,473.80	1,584.40	1,768.00	2,275.70	2,265.10
5	Canada	1,693.20	2,106.40	2,499.70	2,072.80	2,053.80
6	China	1,155.80	953.10	967.00	938.90	1,368.70
7	Australia	734.10	963.60	751.20	1,027.10	1,230.40
8	Argentina	776.60	521.10	817.30	796.80	886.00
9	Mexico	811.70	810.40	588.10	725.60	885.90
10	Japan	459.80	447.40	515.90	486.50	479.70
11	New Zealand	87.00	188.90	146.90	219.60	327.40
12	Netherlands	15.60	57.30	100.10	111.70	321.80
13	Korea, South	340.30	233.60	219.00	277.60	288.10
14	Hong Kong	80.00	118.10	184.30	286.10	267.00
15	Thailand	12.40	39.10	1.70	18.20	260.70
16	Vietnam	195.00	296.30	355.50	268.50	199.30
17	Colombia	607.00	558.20	196.50	220.50	182.70
18	Chile	92.30	181.00	222.20	297.20	166.00
19	Russia	89.80	94.90	97.70	145.90	144.90
20	India	80.00	142.10	25.60	44.30	129.80
21	Ireland	27.80	48.30	69.90	74.00	123.50
22	Peru	254.10	229.10	122.60	154.50	100.40
23	Dominican Republic	95.30	98.50	93.80	117.10	83.90
24	Guatemala	36.30	45.10	50.60	47.40	80.20
25	Philippines	186.20	125.90	141.20	66.40	68.30
26	Venezuela	27.30	17.20	2.20	34.80	68.00
27	Uruguay	14.70	13.00	49.00	23.10	58.60
28	Ecuador	94.70	130.40	46.40	63.10	45.00
29	South Africa	99.70	118.70	36.50	75.10	43.80
30	Indonesia	17.90	18.00	22.60	17.20	41.10
31	Panama	66.60	66.40	40.40	61.80	38.20
32	Taiwan	32.90	28.90	21.20	19.60	36.00
33	El Salvador	24.40	35.90	24.60	38.30	31.40
34	Sweden	5.70	12.10	55.50	69.20	28.90
35	Cambodia	17.50	48.00	26.50	28.50	27.50
36	Czech Republic	25.30	29.00	12.00	21.60	18.70
37	Spain	5.60	7.00	5.00	22.70	16.60
38	Paraguay	15.80	28.10	35.00	20.30	16.60
39	Costa Rica	6.30	4.10	3.00	18.40	12.60
40	Honduras	31.20	26.70	18.70	25.50	4.90
	Total Top 40 Countries	16,163.10	16,818.30	16,852.70	18,601.20	20,902.40
	All Other Countries	259.00	227.80	212.10	187.90	304.80
	Grand Total	16,422.10	17,046.10	17,064.80	18,789.10	21,207.20

USDA Global Agricultural Trade System. Data Source: U.S. Census Bureau Trade Data. 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)				
		2018	2019	2020	2021	2022
1	Germany	3,427.2	3,064.0	2,909.8	3,089.4	2,243.6
2	New Zealand	396.9	372.4	954.4	919.5	1,148.5
3	Australia	621.9	670.2	750.9	399.8	1,009.9
4	South Africa	5.0	43.1	118.8	0.0	265.6
5	United Kingdom	423.2	426.5	209.5	134.7	157.4
6	Czech Republic	97.6	82.0	86.1	163.9	144.2
7	Netherlands	0.0	0.0	0.0	0.0	27.9
8	Canada	47.8	37.0	32.2	25.2	23.6
9	Slovenia	92.9	23.7	45.8	22.5	12.0
10	Austria	0.0	6.9	1.4	5.7	10.2
11	Ethiopia	0.8	6.1	1.8	6.7	9.5
12	Belgium-Luxembourg	0.2	15.8	0.2	10.5	8.1
13	China	30.7	78.8	49.8	11.5	5.7
14	France	21.1	29.4	2.8	4.1	3.6
15	Poland	0.0	0.4	0.0	2.1	1.7
16	Italy	10.8	17.9	13.9	6.2	0.9
17	Argentina	1.0	6.7	0.0	0.0	0.3
18	Spain	0.1	0.0	0.0	0.0	0.2
19	Chile	0.0	0.0	1.3	0.0	0.0
20	Hong Kong	10.1	13.0	0.0	0.0	0.0
21	Russia	0.0	0.4	0.0	0.0	0.0
22	Sierra Leone	0.0	33.7	37.2	0.0	0.0
	Grand Total	5,187.3	4,928.0	5,215.9	4,801.8	5,072.9

MT = 2204.6 lb.

USDA Global Agricultural Trade System. Data Source: U.S. Census Bureau Trade Data. 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) – 2020-21 (MILLION HL)

Brewery	2020 Production	2020 % Share	2021 Production	2021 % Share
ABInBev	467.4	25.7%	581.7	31.3%
Heineken	221.6	12.2%	231.2	12.4%
Carlsberg	110.1	6.1%	119.6	6.4%
China Res. Snow Breweries	106.9	5.9%	112.2	6.0%
Molson-Coors	84.5	4.6%	84	4.5%
Tsingtao Brewery Group	80.0	4.4%	76	4.1%
Asahi	56.3	3.1%	57.4	3.1%
BGI/Groupe Castel	36.7	2.0%	40	2.2%
Efes Group	36.2	2.0%	37.9	2.0%
Yanjing	35.3	1.9%	33.5	1.8%
Top 10 total	1,235.0	67.9%	1,373.5	73.8%

The top 3 brewing groups controlled 50.1% of the market share in 2021, up from 44% in 2020.

The top 40 brewing groups worldwide represented 91.4% market share in 2020.

Source: Barth Report 2021-22

FOR AN INTERESTING COMPARISON, HERE IS THE RANKING FOR WORLD BEER PRODUCTION BY BREWERY (TOP 10) FOR 1988 (MILLION HL) - 34 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	2019	2020	2021	2022
Germany	91.6	87.0	89.5	86.5
Russia	73.0	74.0	84.5	82.0
England	41.0	37.0	40.0	43.0
Poland	39.9	34.6	41.0	39.0
Spain	39.5	25.0	37.8	40.0
Belgium	22.5	19.1	25.2	26.0
Netherlands	21.0	20.5	23.5	23.5
France	24.9	19.4	21.5	23.5
Czech Republic	22.4	17.9	17.8	19.6
Romania	18.2	17.8	17.8	17.0
Ukraine	19.2	17.6	17.3	10.0
Italy	16.0	14.6	16.0	17.5
Austria	9.9	9.3	9.9	10.7
Turkey	9.3	8.5	9.5	9.3
Ireland	8.1	7.4	8.1	8.5
Portugal	6.7	6.1	6.8	7.1
Other Europe	66.7	95.0	64.6	65.6
Total Europe	529.9	510.8	530.8	528.8
USA	214.0	210.0	214.0	220.0
Brazil	140.0	135.0	140.0	140.0
Mexico	116.0	112.0	116.0	120.5
Colombia	22.9	22.0	22.9	22.5
Canada	22.1	21.8	22.1	22.0
Argentina	19.2	19.0	19.2	19.8
Peru	14.5	14.0	14.5	14.8
Chile	8.7	8.6	8.7	8.5
Other Americas	43.9	41.8	43.0	40.9
Total Americas	601.3	584.2	600.4	609.0
P.R. China	375.0	337.4	335.0	355.0
Japan	52.5	44.9	52.0	49.6
Vietnam	44.8	36.0	41.0	46.1
India	25.2	22.0	24.0	18.7
Philippines	19.5	16.0	19.5	19.5
Thailand	24.0	20.5	17.5	19.4
South Korea	18.2	17.0	17.0	16.0
Other Asia	53.8	47.3	58.2	54.7
Total Asia	613.0	541.1	564.2	579.0
South Africa	33.1	24.8	30.0	31.5
Nigeria	17.5	14.1	17.0	20.0
Other Africa	94.9	81.5	91.3	89.5
Total Africa	145.5	120.4	138.3	141.0
Australia	17.5	16.1	17.5	17.0
New Zealand	3.0	2.8	2.7	2.9
Oceania	1.3	1.3	1.3	1.5
Total Australia	22.1	20.4	21.8	21.4
WORLD TOTALS	1,911.8	1,747.2	1,855.5	1,879.2

* Estimate

Source: S.S. Steiner 2022 Guidelines for Hop Buying