



*2021*  
*STATISTICAL REPORT*

RELEASED JANUARY 2022

PRESENTED BY  
HOP GROWERS OF AMERICA



## TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	3-4
U.S. HOP ACREAGE BY STATE AND VARIETY (5 YEARS)	5-6
TOP 10 PACIFIC NORTHWEST HOP VARIETIES	7
CHART – MAJOR PNW HOP VARIETIES	7
<u>PNW HOP ACREAGE BY STATE (10 YEARS)</u>	<u>8</u>
CHART – US HOP ACREAGE (1992-2021)	8
PNW HOP YIELDS BY STATE AND VARIETY (5 YEARS)	9-10
U.S. AVERAGE HOP YIELDS (10 YEARS)	11
CHART – US HOP ACREAGE – AROMA/DUAL PURPOSE VS. ALPHA	11
<u>U.S. HOP PRODUCTION BY STATE AND VARIETY (5 YEARS)</u>	<u>12-13</u>
CHART – US HOP PRODUCTION – ALPHA VS. AROMA POUNDS, AVG. YIELD	14
U.S. HOPS: SEASON AVERAGE PRICE & TOTAL CROP VALUE	14
U.S. HOP STOCKS	15
2021 U.S. HOP INSPECTION REPORT	16
<u>U.S. HOP LEAF, STEM &amp; SEED CONTENT PERCENTAGE (10 YEARS)</u>	<u>16</u>
2021 US-GROWN HOP VARIETY CODES	17
IHGC AROMA ACREAGE (5 YEARS)	18
IHGC ALPHA ACREAGE (5 YEARS)	18
<u>IHGC TOTAL ACREAGE (5 YEARS)</u>	<u>19</u>
2021 IHGC HOP ACREAGE AND PRODUCTION	19
U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)	20
CHART – WORLD ALPHA PRODUCTION & DEMAND (10 YEARS)	20
<u>CHART – COMPARISON OF IHGC CROPS 2005-2020</u>	<u>21</u>
CHART - COMPOSITION OF WORLD HOP ACREAGE 1992 VERSUS 2020	22
CHART – WORLD’S LARGEST ALPHA PRODUCERS	22
WORLD HOP ACREAGE & PERCENT SHARE (10 YEARS)	23
<u>WORLD HOP PRODUCTION &amp; PERCENT SHARE (10 YEARS)</u>	<u>23</u>
U.S. HOP EXPORTS BY COUNTRY – TOP 40 (5 YEARS)	24
U.S. HOP IMPORTS BY COUNTRY (5 YEARS)	25
WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2018/19 vs. 1988	26
WORLD BEER PRODUCTION (5 YEARS)	27

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 2021, 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

Despite unprecedented challenges throughout the growing season, the U.S. hop industry emerged from 2021 with a record-breaking hop production of 116.5 million pounds. Commercial acreage increased 4% and total production soared 11.18% above the 2020 crop.

For the fourth year running Citra® HBC 394 remains dominant in acreage, this season commanding nearly 1 out of every 5 hop bines in the Pacific Northwest and tallying a total of 11,994 acres. Notably for the first time Mosaic® HBC 369 clinched the number two spot with 6,374 acres, preceding third place super alpha CTZ and fourth place Cascade.

A historic heat wave in June largely defined the growing challenges for the season, elevating temperatures to a scorching 115 degrees across the Pacific Northwest and threatening to stunt the crop. Producers spent the summer nurturing the crop with precise irrigation and many varieties rebounded admirably, resulting in average yields of 1,900 pounds per acre in the Pacific Northwest consistent with the 10-year PNW average of 1,889 pounds per acre.

2021's production increased to 116.5 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 73% of the Pacific Northwest, followed by Idaho with 16% and Oregon with 11%. The remaining states commercial hop production is estimated at 900,000 pounds. States outside the Pacific Northwest experienced a season punctuated by lengthy periods of precipitation, contributing to mildew and the fungal-derived diaporthe affliction. Operations suffered severe cone shattering during harvest, greatly impacting yields.

Since 2012 (10 years) US hop acreage has increased 109%, from 29,683 to 62,259 acres. During that period the variety balance shifted from roughly 50-50 alpha and aroma hops in 2012 to 80.5% aroma varieties in 2021. In 2021 alpha/bitter hop varieties represented 19.5% of US acreage.

### Top 10 PNW Hop Varieties by Acreage:

Rank	2016	2017	2018	2019	2020	2021
1	Cascade	Cascade	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394	Citra®, HBC 394
2	Centennial	Centennial	CTZ	CTZ	CTZ	Mosaic®, HBC 369
3	CTZ	Citra®, HBC 394	Cascade	Cascade	Mosaic®, HBC 369	CTZ
4	Citra®, HBC 394	CTZ	Centennial	Simcoe®, YCR 14	Simcoe®, YCR 14	Cascade
5	Simcoe®, YCR 14	Simcoe®, YCR 14	Simcoe®, YCR 14	Mosaic®, HBC 369	Cascade	Simcoe®, YCR 14
6	Mosaic®, HBC 369	Mosaic®, HBC 369	Chinook	Centennial	Centennial	Centennial
7	Chinook	Chinook	Mosaic®, HBC 369	Amarillo®, VGXP01	Pahto®, HBC 682	Pahto®, HBC 682
8	Summit	Willamette	Amarillo®, VGXP01	Chinook	Amarillo®, VGXP01	Amarillo®, VGXP01
9	Willamette	Summit	Pahto®, HBC 682	Pahto®, HBC 682	Chinook	Chinook
10	Apollo™	Apollo™	Summit	Summit	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. Lower yielding aroma varieties have a higher cost per pound to maintain a consistent gross income per acre. Additional economic impacts in 2021 resulted from continued 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>. Substantially increased inflation impacting supplies, fuel, labor, and other inputs was estimated at 6.5% for 2021, which would result in a cost of production of \$14,471 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*
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
2021	60,872	115,630,900	1,900	\$661,618	\$10,869

Source: USDA-NASS, prepared by HGA.

## US HOP ACREAGE BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	ACRES HARVESTED					2020-2021 % +/-
	2017	2018	2019	2020	2021	
<b>ARIZONA</b>	1.0	1.0	1.0	1.0	1.0	0.00%
<b>CALIFORNIA</b>	130.0	130.0	130.0	130.0	50.0	-61.54%
<b>COLORADO</b>	200.0	147.0	147.0	147.0	10.0	-93.20%
<b>CONNECTICUT</b>	15.0	15.0	15.0	20.0	10.0	-50.00%
<b>IDAHO #</b>						
Amarillo®, VGXP01	983.0	825.0	561.0	538.0	380.0	-29.37%
Apollo™	228.0	232.0	191.0	158.0	158.0	
Bravo™	149.0	87.0	62.0	10.0	17.0	70.00%
Calypso	81.0	81.0	81.0	53.0	53.0	0.00%
Cascade	882.0	836.0	710.0	407.0	479.0	17.69%
Cashmere	*	*	*	125.0	124.0	-0.80%
Centennial	255.0	*	*	*	*	
Chinook	699.0	962.0	786.0	624.0	521.0	-16.51%
Citra®, HBC 394	759.0	855.0	973.0	1,527.0	1,743.0	14.15%
Cluster	*	63.0	*	*	*	
Columbus/Tomahawk®/Zeus	1,061.0	1,496.0	1,602.0	1,457.0	1,046.0	-28.21%
Comet	*	*	112.0	93.0	146.0	56.99%
Crystal	182.0	150.0	131.0	*	*	
El Dorado®	219.0	120.0	352.0	526.0	621.0	18.06%
Eureka!™	67.0	133.0	185.0	187.0	332.0	43.67%
Galena	*	109.0	113.0	*	*	
Hallertauer	*	*	25.0	159.0	159.0	0.00%
Idaho 7™	*	*	388.0	564.0	592.0	4.96%
Mosaic®, HBC 369	500.0	506.0	801.0	1,186.0	1,380.0	16.36%
Mt. Rainier	*	*	*	*	84.0	
Northern Brewer	*	*	57.0	58.0	58.0	0.00%
Saaz	*	*	140.0	*	330.0	
Simcoe®, YCR 14	394.0	449.0	469.0	425.0	388.0	-8.71%
Super Galena™	34.0	84.0	63.0	63.0	63.0	0.00%
Triumph	*	*	*	39.0	72.0	84.62%
Willamette	128.0	*	170.0	*	389.0	
Experimental	26.0	*	*	*	*	
Other Varieties	478.0	1,152.0	386.0	1,069.0	559.0	-47.71%
<b>TOTAL IDAHO #</b>	<b>7,125.0</b>	<b>8,140.0</b>	<b>8,358.0</b>	<b>9,268.0</b>	<b>9,694.0</b>	<b>4.60%</b>
<b>ILLINOIS</b>	30.0	30.0	30.0	30.0	20.0	-33.33%
<b>INDIANA</b>	50.0	50.0	50.0	100.0	80.0	-20.00%
<b>IOWA</b>	60.0	60.0	60.0	60.0	40.0	-33.33%
<b>KENTUCKY</b>	30.0	12.0	12.0	18.0	11.0	-38.89%
<b>MAINE</b>	24.0	24.0	24.0	24.0	15.0	-37.50%
<b>MARYLAND</b>	20.0	20.0	20.0	20.0	10.0	-50.00%
<b>MASSACHUSETTS</b>	25.0	30.0	30.0	30.0	15.0	-50.00%
<b>MICHIGAN</b>	810.0	750.0	720.0	500.0	375.0	-25.00%
<b>MINNESOTA</b>	120.0	120.0	122.0	40.0	30.0	-25.00%
<b>MONTANA</b>	17.0	36.0	36.0	173.0	197.0	13.87%
<b>NEBRASKA</b>	39.0	44.0	46.5	49.0	10.0	-79.59%
<b>NEW HAMPSHIRE</b>	2.0	2.0	2.0	2.0	2.0	0.00%
<b>NEW JERSEY</b>	15.0	15.0	15.0	15.0	10.0	-33.33%
<b>NEW YORK</b>	400.0	400.0	400.0	350.0	300.0	-14.29%
<b>NORTH CAROLINA</b>	30.0	30.0	35.0	25.0	20.0	-20.00%
<b>NORTH DAKOTA</b>	3.5	3.5	3.5	3.5	3.0	-14.29%
<b>OHIO</b>	100.0	70.0	85.0	87.0	65.0	-92.53%
<b>OREGON #</b>						
Amarillo®, VGXP01	*	*	212.0	216.0	193.0	-10.65%
Cascade	1,247.0	1,064.0	1,039.0	754.0	666.0	-11.67%
Centennial	789.0	698.0	614.0	489.0	364.0	-25.56%
Chinook	124.0	129.0	114.0	86.0	79.0	-8.14%
Citra®, HBC 394	766.0	690.0	998.0	1,327.0	1,472.0	10.93%
Crystal	407.0	354.0	247.0	*	159.0	
Eureka!™	*	*	*	*	31.0	
Fuggle	86.0	59.0	63.0	*	*	
Golding	215.0	121.0	92.0	*	78.0	
Hallertau Magnum	47.0	105.0	*	*	*	
Liberty	*	*	*	56.0	54.0	-3.57%
Mosaic®, HBC 369	337.0	*	478.0	595.0	844.0	41.85%
Mt. Hood	318.0	311.0	295.0	159.0	123.0	-22.64%
Mt. Rainier	*	*	*	*	126.0	
Nugget	1,467.0	1,307.0	1,059.0	826.0	572.0	-30.75%
Perle	76.0	77.0	*	*	*	
Sabro™, HBC 438	*	*	*	74.0	225.0	204.05%
Simcoe®, YCR 14	461.0	436.0	440.0	474.0	499.0	5.27%
Sterling	227.0	191.0	147.0	58.0	58.0	0.00%
Strata™, OR 91331	*	*	253.0	484.0	833.0	72.11%
Super Galena™	67.0	84.0	78.0	87.0	14.0	-83.91%
Tettnanger	72.0	72.0	*	*	*	
Willamette	892.0	913.0	619.0	605.0	446.0	-26.28%
Other Varieties	618.0	1,114.0	558.0	814.0	559.0	-31.33%
<b>TOTAL OREGON #</b>	<b>8,216.0</b>	<b>7,725.0</b>	<b>7,306.0</b>	<b>7,104.0</b>	<b>7,395.0</b>	<b>4.10%</b>

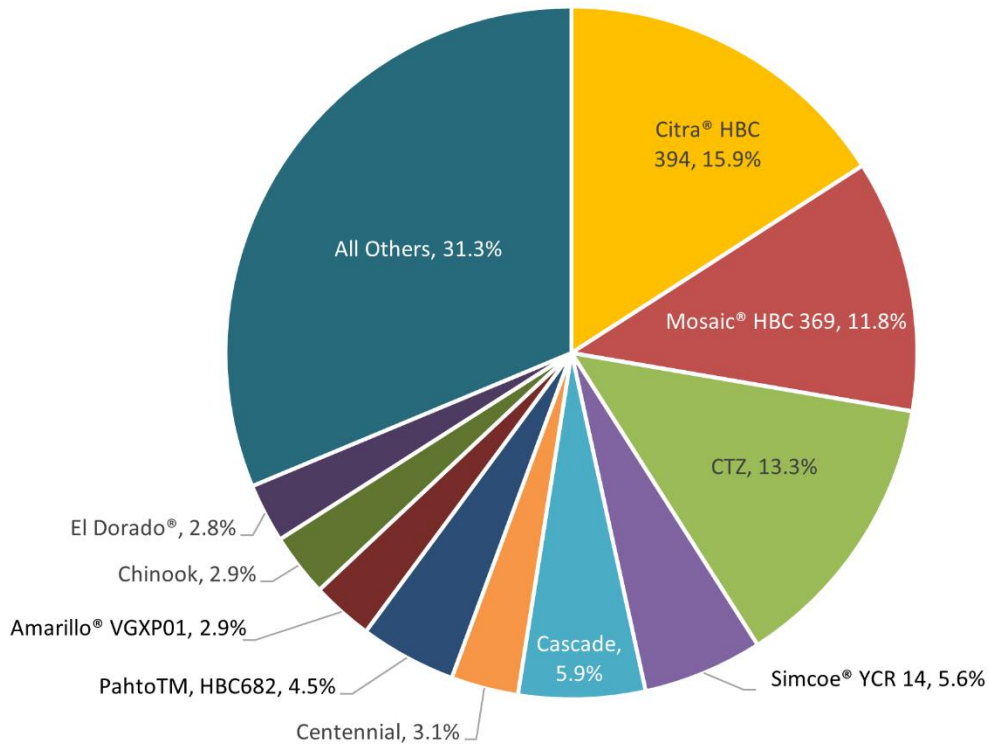
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STATE & VARIETY	ACRES HARVESTED					2020-2021
	2017	2018	2019	2020	2021	% +/-
<b>PENNSYLVANIA</b>	20.0	30.0	50.0	40.0	20.0	-50.00%
<b>RHODE ISLAND</b>	10.0	10.0	10.0	10.0	5.0	-50.00%
<b>VERMONT</b>	25.0	25.0	25.0	40.0	38.0	-5.00%
<b>VIRGINIA</b>	30.0	30.0	30.0	20.0	10.0	-50.00%
<b>WASHINGTON #</b>						
Ahtanum™, YCR 1	371.0	255.0	261.0	230.0	166.0	-27.83%
Amarillo®, VGXP01	1,984.0	1,895.0	1,597.0	1,395.0	1,334.0	-4.37%
Apollo™	684.0	795.0	851.0	750.0	795.0	6.00%
Azacca™, ADHA-483	578.0	546.0	589.0	722.0	730.0	1.11%
Bravo™	486.0	280.0	236.0	201.0	238.0	18.41%
Calypso™	110.0	104.0	104.0	115.0	115.0	0.00%
Cascade	4,966.0	4,274.0	3,718.0	2,877.0	3,183.0	10.64%
Cashmere	*	195.0	310.0	448.0	690.0	54.02%
Centennial	4,375.0	3,875.0	3,031.0	2,444.0	1,978.0	-19.07%
Chinook	1,632.0	1,734.0	1,437.0	1,183.0	1,174.0	-0.76%
Citra®, HBC 394	3,715.0	4,837.0	6,720.0	8,143.0	8,766.0	7.65%
Cluster	621.0	610.0	470.0	413.0	390.0	-5.57%
Columbus/Tomahawk®/Zeus	3,873.0	4,626.0	4,935.0	4,829.0	4,523.0	-6.34%
Comet	205.0	218.0	210.0	330.0	386.0	16.97%
Crystal	122.0	114.0	66.0	*	*	
Ekuanot™, HBC 366	890.0	865.0	632.0	641.0	381.0	-40.56%
El Dorado®	463.0	418.0	641.0	1,058.0	1,113.0	5.20%
Eureka™	362.0	409.0	425.0	465.0	466.0	0.22%
Galena	378.0	390.0	297.0	241.0	*	
Glacier	*	*	*	*	*	
Idaho 7™	*	*	85.0	341.0	388.0	13.78%
Jarrylo™, ADHA-881	*	*	*	17.0	*	
Loral™, HBC 291	186.0	172.0	125.0	164.0	197.0	20.12%
Mosaic®, HBC 369	1,877.0	1,932.0	2,829.0	3,715.0	4,193.0	12.87%
Mt. Hood	87.0	104.0	53.0	48.0	*	
Mt. Rainier	*	306.0	239.0	223.0	209.0	-6.28%
Nugget	125.0	126.0	104.0	*	*	
Pahto™, HBC 682	*	1,721.0	2,109.0	2,208.0	2,114.0	-4.26%
Palisade®, YCR-4	571.0	515.0	477.0	246.0	333.0	35.37%
Pekko™, ADHA-871	*	92.0	*	801.0	1,070.0	
Sabro™, HBC 438	*	*	724.0	1,145.0	1,120.0	
Simcoe®, YCR 14	3,753.0	3,103.0	3,367.0	3,214.0	3,172.0	-1.31%
Sorachi Ace	*	146.0	*	*	*	
Summit™	1,617.0	1,574.0	1,072.0	640.0	437.0	-31.72%
Super Galena™	435.0	500.0	473.0	475.0	480.0	1.05%
Tahoma	217.0	209.0	230.0	177.0	388.0	119.21%
Tettnanger	38.0	*	*	*	*	
Warrior®, YCR 5	*	*	*	283.0	128.0	-54.77%
Willamette	571.0	376.0	270.0	203.0	132.0	-34.98%
Experimental	421.0	374.0	360.0	453.0	575.0	26.93%
Other Varieties	2,935.0	1,480.0	1,833.0	1,431.0	2,419.0	69.04%
<b>TOTAL WASHINGTON #</b>	<b>38,648.0</b>	<b>39,170.0</b>	<b>40,880.0</b>	<b>42,269.0</b>	<b>43,783.0</b>	<b>3.58%</b>
<b>WISCONSIN</b>	<b>297.0</b>	<b>297.0</b>	<b>297.0</b>	<b>150.0</b>	<b>40.0</b>	<b>-73.33%</b>
<b>TOTAL PACIFIC NORTHWEST</b>	<b>53,989.0</b>	<b>55,035.0</b>	<b>56,544.0</b>	<b>58,641.0</b>	<b>60,872.0</b>	<b>3.80%</b>
<b>TOTAL NON-PNW US</b>	<b>2,503.5</b>	<b>2,433.0</b>	<b>2,386.0</b>	<b>2,077.0</b>	<b>1,387.0</b>	<b>-33.22%</b>
<b>TOTAL UNITED STATES</b>	<b>56,492.5</b>	<b>57,468.0</b>	<b>58,930.0</b>	<b>60,718.0</b>	<b>62,259.0</b>	<b>2.54%</b>

**TOP 10 PACIFIC NORTHWEST HOP VARIETIES (WITH ACREAGE)**

Rank	2016	2017	2018	2019	2020	2021
1	Cascade (7,581)	Cascade (7,175)	Citra®, HBC 394 (6,652)	Citra®, HBC 394 (9,035)	Citra®, HBC 394 (10,997)	Citra®, HBC 394 (11,981)
2	Centennial (5,082)	Centennial (5,534)	CTZ (6,102)	CTZ (6,539)	CTZ (6,286)	Mosaic®, HBC 369 (6,417)
3	CTZ (4,498)	Citra®, HBC 394 (5,284)	Cascade (6,009)	Cascade (5,280)	Mosaic®, HBC 369 (5,496)	CTZ (5,569)
4	Citra®, HBC 394 (4,494)	CTZ (4,952)	Centennial (4,864)	Simcoe®, YCR 14 (4,365)	Simcoe®, YCR 14 (4,113)	Cascade (4,328)
5	Simcoe®, YCR 14 (4,331)	Simcoe®, YCR 14 (4,598)	Simcoe®, YCR 14 (3,916)	Mosaic®, HBC 369 (4,225)	Cascade (4,038)	Simcoe®, YCR 14 (4,007)
6	Mosaic®, HBC 369 (2,525)	Mosaic®, HBC 369 (2,773)	Chinook (2,839)	Centennial (3,680)	Centennial (2,933)	Centennial (2,342)
7	Chinook (1,940)	Chinook (2,429)	Mosaic®, HBC 369 (2,768)	Amarillo®, VGXP01 (2,369)	Pahto®, HBC 682 (2,208)	Pahto®, HBC 682 (2,114)
8	Summit (1,769)	Willamette (1,657)	Amarillo®, VGXP01 (2,734)	Chinook (2,368)	Amarillo®, VGXP01 (2,149)	Amarillo®, VGXP01 (1,907)
9	Willamette (1,561)	Summit (1,616)	Pahto®, HBC 682 (1,659)	Pahto®, HBC 682 (2,150)	Chinook (1,893)	Chinook (1,774)
10	Apollo™ (970)	Apollo™ (912)	Summit (1,574)	Summit (1,072)	El Dorado® (1,584)	El Dorado® (1,734)
	Top Ten 34,751	Top Ten 36,930	Top Ten 39,117	Top Ten 41,083	Top Ten 41,697	Top Ten 42,173
	Other 18,212	Other 18,670	Other 15,918	Other 15,461	Other 16,944	Other 18,699
	Total 52,963	Total 55,600	Total 55,035	Total 56,544	Total 58,641	Total 60,872
	Top Ten 71.28%	Top Ten 66.4%	Top Ten 71%	Top Ten 72.65%	Top Ten 71.1%	Top Ten 69.3%

**MAJOR PNW HOP VARIETIES – 2021 (% of acreage)**



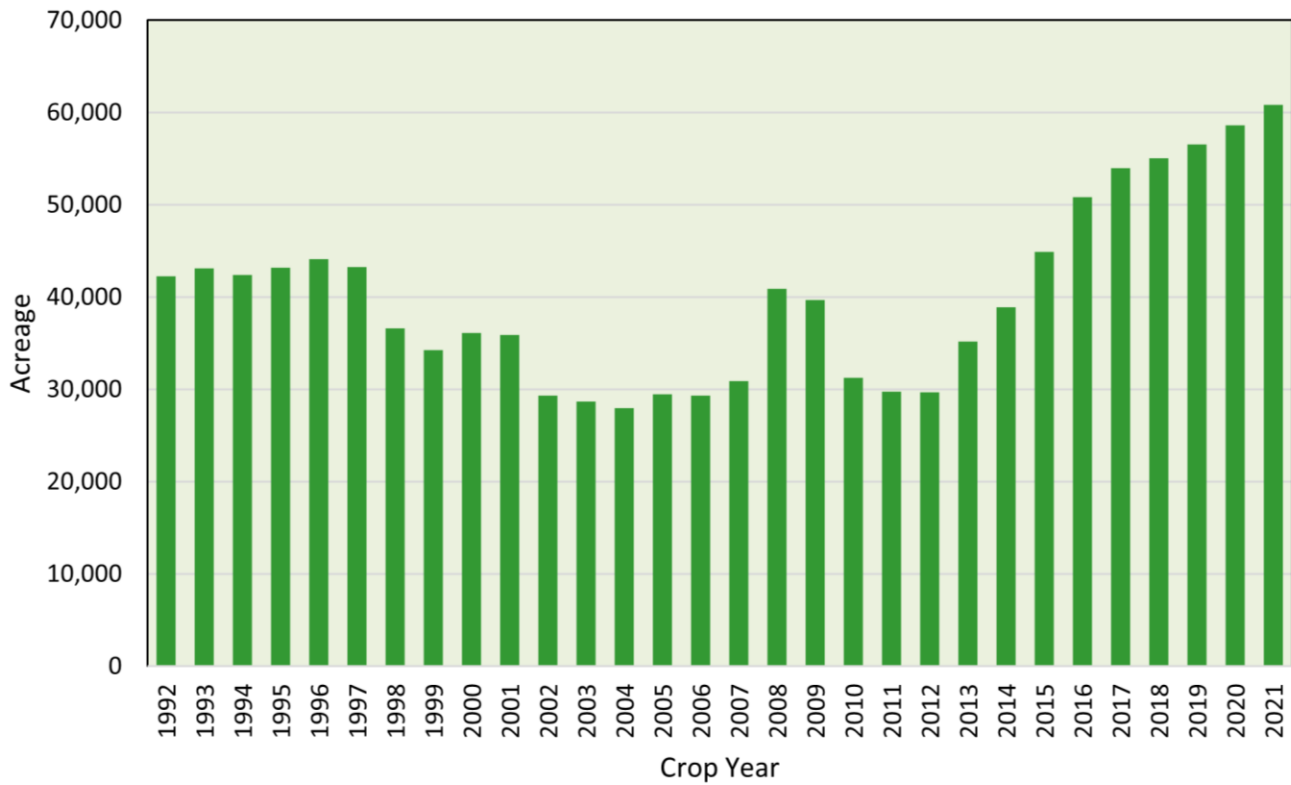
SOURCE: USDA-NASS. Prepared by HGA.

**PACIFIC NORTHWEST HOP ACREAGE BY STATE (10 YEARS)**

YEAR	ACREAGE HARVESTED			TOTAL
	WASHINGTON	OREGON	IDAHO	
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
2021	43,783	7,395	9,694	60,872

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)					2020-21
	2017	2018	2019	2020	2021	% +/-
<b>IDAHO</b>						
Amarillo <sup>®</sup> , VGXP01	1,569	2,009	1,560	1,576	1,813	15.04%
Apollo <sup>™</sup>	1,798	1,951	2,480	2,305	2,535	9.98%
Bravo <sup>™</sup>	2,799	2,226	2,246	1,473	1,163	-21.05%
Calypso <sup>™</sup>	2,159	2,138	1,901	1,966	1,974	0.41%
Cascade	1,771	1,716	1,823	1,213	1,559	28.52%
Cashmere	*	*	*	1,578	1,828	15.84%
Centennial	2,028	*	*	*	*	
Chinook	1,665	1,873	2,215	1,614	2,104	30.36%
Citra <sup>®</sup> , HBC 394	1,657	1,415	1,532	1,686	1,413	-16.19%
Cluster	*	2,126	*	*	*	
Columbus/Tomahawk <sup>®</sup> /Zeus	*	*	3,002	2,673	3,169	18.56%
Comet	*	*	1,970	1,740	1,663	-4.43%
Crystal	2,084	1,927	1,971	*	*	
El Dorado <sup>®</sup>	2,163	1,463	1,352	1,590	1,778	11.82%
Eureka! <sup>™</sup>	2,023	2,299	2,243	2,184	2,433	11.40%
Galena	*	1,715	1,773	*	*	
Hallertauer	*	*	1,253	614	1,272	107.17%
Idaho 7 <sup>™</sup>	*	*	2,562	2,442	2,837	16.18%
Mosaic <sup>®</sup> , HBC 369	2,581	2,333	2,296	2,335	2,141	-8.31%
Mt. Rainier	*	*	*	*	985	
Northern Brewer	*	*	1,407	1,432	1,266	-11.59%
Saaz	*	*	771	*	620	
Simcoe <sup>®</sup> , YCR 14	1,494	1,245	1,164	992	1,121	13.00%
Super Galena <sup>™</sup>	2,992	2,493	2,737	2,851	2,127	-25.39%
Triumph	*	*	*	365	1,063	191.23%
Willamette	1,689	*	1,695	*	1,311	
Zeus	2,756	2,764	2,672	*	*	
Experimental	611	*	*	*	*	
Other Varieties <sup>2</sup>	1,929	1,845	1,971	1,567	1,725	10.08%
Total Idaho <sup>1</sup>	1,974	1,995	2,034	1,855	1,900	2.43%
<b>OREGON</b>						
Amarillo <sup>®</sup> , VGXP01	*	*	2,312	2,360	2,186	-7.37%
Cascade	1,425	1,623	1,620	1,639	1,595	-2.68%
Centennial	1,273	1,277	1,661	1,675	1,384	-17.37%
Chinook	1,667	1,674	1,733	1,481	1,794	21.13%
Citra <sup>®</sup> , HBC 394	1,475	1,600	1,476	1,506	1,414	-6.11%
Crystal	1,772	1,819	1,943	*	1,816	
Eureka! <sup>™</sup>	*	*	*	*	2,292	
Fuggle	1,251	1,034	1,243	*	*	
Golding	1,181	1,160	1,351	*	927	
Hallertau Magnum	1,714	1,284	*	*	*	
Liberty	*	*	*	2,289	1,506	-34.21%
Mosaic <sup>®</sup> , HBC 369	1,875	*	2,113	2,155	2,077	-3.62%
Mt. Hood	1,439	1,411	1,538	1,551	1,624	4.71%
Nugget	1,820	1,946	2,130	1,841	2,162	17.44%
Perle	1,164	1,093	*	*	*	
Sabro <sup>™</sup> , HBC 438	*	*	*	870	1,749	101.03%
Simcoe <sup>®</sup> , YCR 14	1,421	1,588	1,845	1,823	1,643	-9.87%
Sterling	1,407	1,760	1,643	1,728	1,321	-23.55%
Strata <sup>™</sup> OR 91331	*	*	2,066	2,068	1,889	-8.66%
Super Galena <sup>™</sup>	2,096	2,216	2,580	2,801	*	
Tettnanger	1,013	1,027	*	*	*	
Willamette	1,324	1,484	1,717	1,857	1,461	-21.32%
Other Varieties <sup>2</sup>	1,573	2,068	1,644	1,479	1,780	20.35%
Total Oregon	1,518	1,675	1,783	1,755	1,705	-2.85%
(continued next page)						

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2020-2021
	2017	2018	2019	2020	2021	% +/-
<b>WASHINGTON</b>						
Ahtanum™, YCR 1	1,052	2,730	2,820	2,134	2,211	3.61%
Amarillo®, VGXP01	1,687	1,868	1,946	1,649	1,659	0.61%
Apollo™	2,729	2,848	2,735	2,248	2,949	19.54%
Azacca™, ADHA-483	2,463	2,491	2,441	1,527	1,909	25.02%
Bravo™	2,973	3,258	3,216	2,308	2,759	19.54%
Calypso™	2,929	3,075	3,140	2,437	2,930	20.23%
Cascade	2,124	1,972	1,920	1,551	1,585	2.19%
Cashmere	*	1,519	1,699	1,514	1,395	-7.86%
Centennial	1,703	1,364	1,820	1,640	1,585	-3.35%
Chinook	1,784	1,875	1,942	1,665	1,851	11.17%
Citra®, HBC 394	1,748	1,611	1,424	1,526	1,580	3.54%
Cluster	1,937	1,813	1,815	2,065	2,016	-2.37%
Columbus/Tomahawk®/Zeus	2,646	2,482	2,584	2,176	2,656	22.06%
Comet	1,855	1,750	1,311	872	1,632	87.16%
Crystal	2,063	2,357	1,989	*	*	
Ekuanot™, HBC 366	2,740	2,583	2,483	2,158	2,608	20.85%
El Dorado®	1,946	1,880	2,032	1,516	1,876	23.75%
Eureka!™	2,244	2,954	3,188	2,332	3,022	29.59%
Galena	2,134	2,149	2,045	1,838	*	
Glacier	*	*	*	*	*	
Idaho 7™	*	*	1,544	1,736	3,197	84.16%
Jarrylo™, ADHA-881	*	*	*	1,428	*	
Loral™, HBC 291	2,295	2,349	2,515	1,874	2,088	11.42%
Mosaic®, HBC 369	2,439	2,351	2,054	1,998	2,129	6.56%
Mt. Hood	1,043	1,454	1,037	1,139	1,139	0.00%
Mt. Rainier	*	1,899	2,149	1,586	*	
Nugget	1,950	1,498	2,313	*	*	
Pahto™, HBC 682	*	2,087	2,398	2,019	2,463	21.99%
Palisade®, YCR-4	2,209	2,441	2,520	2,114	1,866	-11.73%
Pekko™, ADHA-871	*	1,889	*	1,239	2,072	67.23%
Sabro™, HBC 438	*	*	1,612	1,886	1,886	0.00%
Simcoe®, YCR 14	1,792	1,642	1,788	1,643	1,646	0.18%
Sorachi Ace	*	1,042	*	*	*	
Summit™	2,067	1,826	1,816	1,096	1,351	23.27%
Super Galena™	2,647	3,133	2,871	2,636	2,849	8.08%
Tahoma	1,752	2,147	1,958	1,588	1,055	-33.56%
Tettnanger	1,202	*	*	*	*	
Warrior®, YCR 5	*	*	*	1,669	2,240	34.21%
Willamette	1,446	1,348	1,596	1,458	*	
Zeus	3,088	2,619	2,620	*	*	
Experimental	1,901	1,889	2,251	1,207	1,713	41.92%
Other Varieties <sup>2</sup>	1,746	1,896	1,888	1,737	1,934	11.34%
Total Washington	2,047	1,984	2,006	1,754	1,900	8.32%
<b>Total Pacific Northwest</b>	<b>1,959</b>	<b>1,943</b>	<b>1,981</b>	<b>1,770</b>	<b>1,900</b>	<b>7.34%</b>

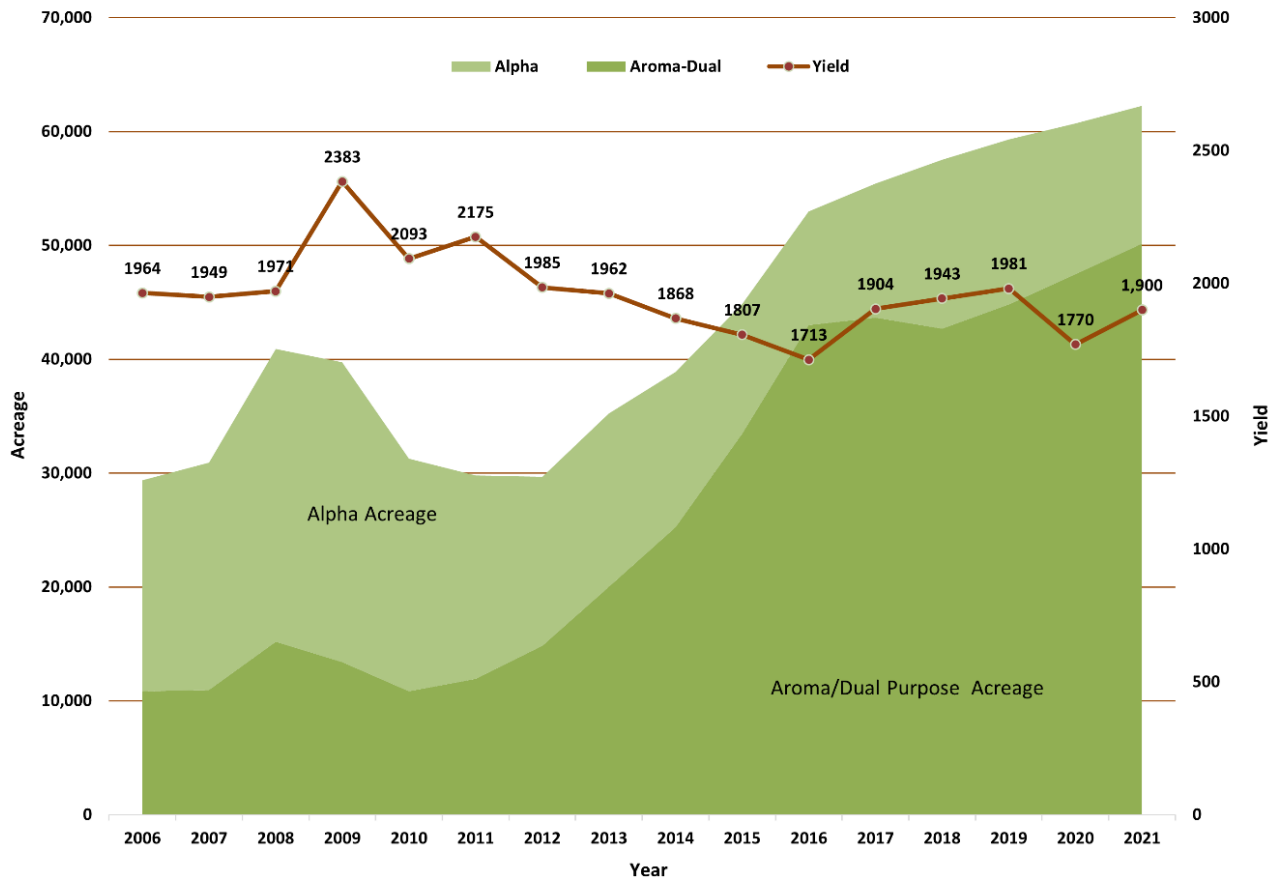
SOURCE: USDA-NASS. Prepared by HGA. State and variety yields for production outside of the Pacific Northwest are not reported. "Other Varieties" includes data to avoid disclosure of individual operations.

**PACIFIC NORTHWEST AVERAGE HOP YIELD (TEN YEARS)**

YEAR	POUNDS PER ACRE			
	WASHINGTON	OREGON	IDAHO	TOTAL
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
2021	1,932	1,705	1,900	1,900

SOURCE: USDA-NASS. Prepared by HGA.

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



**HOP PRODUCTION BY STATE AND VARIETY (FIVE YEARS)**

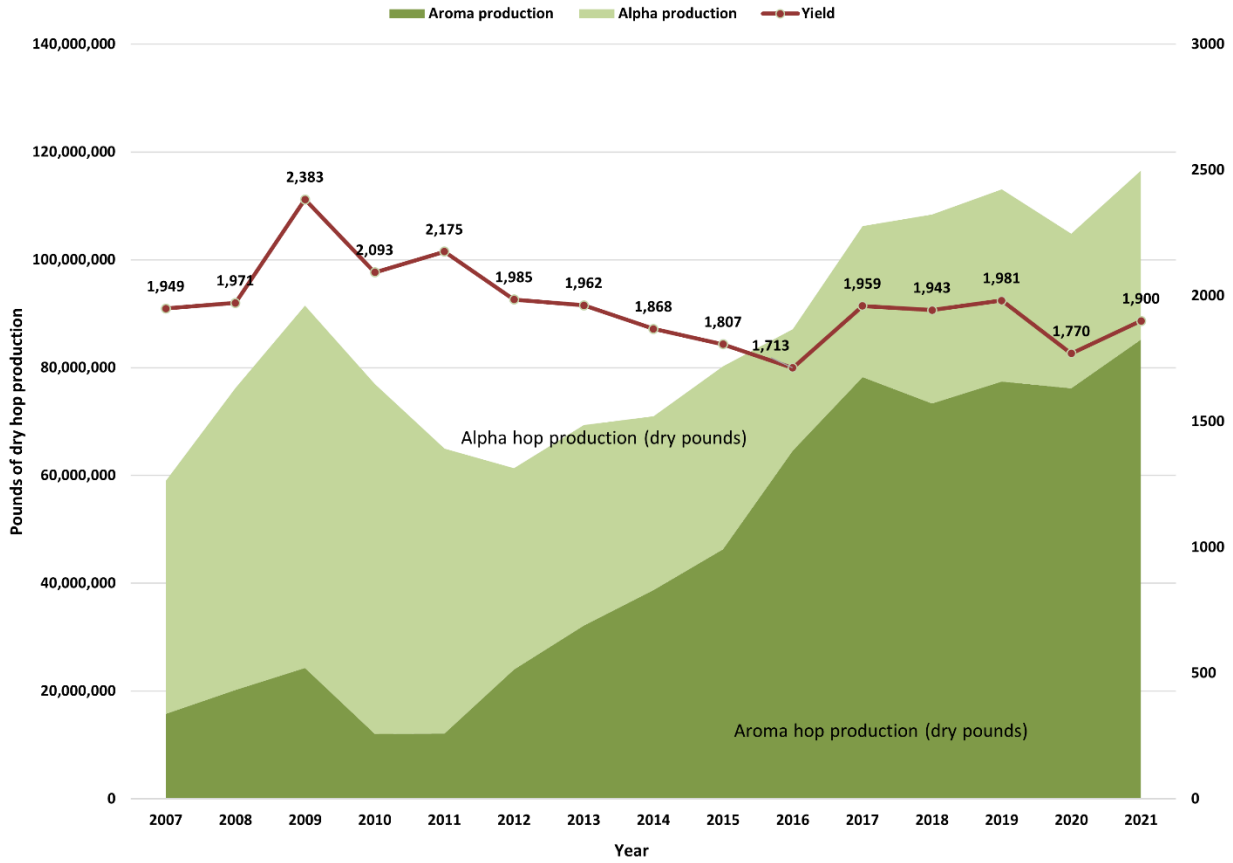
STATE & VARIETY	HOP PRODUCTION (POUNDS)					2020-21
	2017	2018	2019	2020	2021	% +/-
<b>IDAHO</b>						
Amarillo <sup>®</sup> , VGXP01	1,542,300	1,657,400	875,200	847,900	688,900	-18.75%
Apollo <sup>™</sup>	409,900	452,600	473,712	364,117	*	
Bravo <sup>™</sup>	417,100	193,700	139,225	14,725	*	
Calypso <sup>™</sup>	174,900	173,200	154,000	104,209	104,600	
Cascade	1,562,000	1,434,600	1,294,300	493,700	746,800	51.27%
Cashmere	*	*	*	197,300	226,700	
Centennial	517,100	*	*	*	*	
Chinook	1,163,800	1,801,800	1,741,000	1,007,100	1,096,200	8.85%
Citra <sup>®</sup> , HBC 394	1,257,700	1,229,500	1,490,600	2,574,500	2,462,900	-4.33%
Cluster	*	133,900	*	*	*	
Columbus/Tomahawk <sup>®</sup> /Zeus	2,924,100	4,134,900	4,607,600	3,894,600	3,314,800	-14.89%
Comet	*	*	220,600	161,800	242,800	50.06%
Crystal	379,300	289,100	258,200	*	*	
El Dorado <sup>®</sup>	473,700	175,600	475,900	836,300	1,104,100	32.02%
Eureka <sup>!</sup> <sup>™</sup>	135,508	305,800	415,000	408,450	847,300	
Galena	*	186,900	200,300	*	*	
Hallertauer	*	*	31,300	97,600	202,200	
Idaho 7 <sup>™</sup>	*	*	994,100	1,377,300	1,679,500	21.94%
Mosaic <sup>®</sup> , HBC 369	1,290,500	1,180,500	1,839,100	2,769,300	2,954,600	6.69%
Mt. Rainier	*	*	*	*	82,700	
Northern Brewer	*	*	80,200	83,100	73,400	-11.67%
Saaz	*	*	107,900	*	204,600	
Simcoe <sup>®</sup> , YCR 14	588,600	559,000	545,900	421,600	434,900	3.15%
Super Galena <sup>™</sup>	101,741	209,400	*	179,635	*	
Triumph	*	*	*	14,200	76,500	
Willamette	216,200	*	288,200	*	510,000	
Experimental	15,900	*	*	*	*	
Other Varieties	897,281	2,124,900	591,128	1,342,664	1,361,300	1.39%
<b>Total Idaho</b>	<b>14,067,630</b>	<b>16,242,800</b>	<b>16,823,465</b>	<b>17,190,100</b>	<b>18,414,800</b>	<b>7.12%</b>
<b>OREGON</b>						
Amarillo <sup>®</sup> VGXP01	*	*	490,100	509,800	421,900	
Cascade	1,777,000	1,726,900	1,683,200	1,235,800	1,062,300	-14.04%
Centennial	1,004,400	891,300	1,019,900	819,100	503,800	-38.49%
Chinook	206,700	215,900	197,600	127,400	141,700	11.22%
Citra <sup>®</sup> , HBC 394	1,129,900	1,104,000	1,473,000	1,998,500	2,081,400	4.15%
Crystal	721,200	643,900	479,900	*	288,700	
Eureka <sup>!</sup> <sup>™</sup>	*	*	*	*	71,100	
Fuggle	107,600	61,000	78,300	*	*	
Golding	253,900	140,400	124,300	*	72,300	
Hallertau Magnum	80,600	134,800	*	*	*	
Liberty	*	*	*	128,200	81,300	
Mosaic <sup>®</sup> , HBC 369	631,900	*	1,010,000	1,282,200	1,753,000	36.72%
Mt. Hood	457,600	438,800	453,700	246,600	199,800	-18.98%
Mt. Rainier	*	*	*	*	175,000	
Nugget	2,669,900	2,543,400	2,255,700	1,520,700	1,236,700	-18.68%
Perle	88,500	84,200	*	*	*	
Sabro <sup>™</sup> , HBC 438	*	*	*	64,400	393,500	
Simcoe <sup>®</sup> , YCR 14	655,100	692,400	811,800	864,100	819,900	-5.12%
Sterling	319,400	336,200	241,500	100,200	76,600	-23.55%
Strata <sup>™</sup> OR 91331	*	*	522,700	1,000,900	1,573,500	
Super Galena <sup>™</sup>	140,400	186,100	201,200	243,700	45,700	-81.25%
Tettnanger	72,900	73,900	*	*	*	
Willamette	1,181,000	1,359,500	1,062,800	1,123,500	651,600	-42.00%
Other Varieties	972,400	2,303,500	917,500	1,203,600	958,100	-20.40%
<b>Total Oregon</b>	<b>12,470,400</b>	<b>12,936,200</b>	<b>13,023,200</b>	<b>12,468,700</b>	<b>12,607,900</b>	<b>1.12%</b>
(continued next page)						

STATE & VARIETY	HOP PRODUCTION (POUNDS)					2020-21
	2017	2018	2019	2020	2021	% +/-
<b>WASHINGTON</b>						
Ahtanum	390,300	696,200	736,000	490,800	367,000	-25.22%
Amarillo <sup>®</sup> , VGXP01	3,347,000	3,539,900	3,107,800	2,300,400	2,213,100	-3.79%
Apollo <sup>™</sup>	1,866,600	2,264,200	2,327,500	1,686,000	2,256,300	33.83%
Azacca <sup>™</sup> , ADHA-483	1,423,600	1,360,100	1,437,700	1,102,500	1,393,600	26.40%
Bravo <sup>™</sup>	1,444,900	912,200	759,000	463,900	656,600	41.54%
Calypto <sup>™</sup>	322,160	319,800	326,600	280,242	337,000	20.25%
Cascade	10,547,800	8,428,300	7,138,600	4,462,200	5,045,100	13.06%
Cashmere	*	296,200	526,700	678,300	962,600	41.91%
Centennial	7,450,600	5,285,500	5,516,400	4,008,200	3,135,100	-21.78%
Chinook	2,911,500	3,251,300	2,790,700	1,969,700	2,173,100	10.33%
Citra <sup>®</sup> , HBC 394	6,493,800	7,792,400	9,569,300	12,426,200	13,850,300	11.46%
Cluster	1,202,900	1,105,900	853,100	852,800	786,200	-7.81%
Columbus/Tomahawk <sup>®</sup> /Zeus	11,226,500	11,836,800	12,846,000	10,507,900	12,013,100	14.32%
Comet	380,300	381,500	275,300	287,800	630,000	118.90%
Crystal	251,700	268,700	131,300	*	*	
Ekuanot <sup>™</sup> , HBC 366	2,438,600	2,234,300	1,569,300	1,383,300	993,600	-28.17%
El Dorado <sup>®</sup>	901,000	785,800	1,302,500	1,603,900	2,088,000	30.18%
Eureka <sup>™</sup>	812,300	1,208,200	1,354,900	1,084,400	1,408,300	29.87%
Galena	806,700	838,100	607,400	443,000	*	
Glacier	*	*	*	*	*	
Idaho 7 <sup>™</sup>	*	*	131,200	592,000	1,240,400	109.53%
Jarrylo <sup>™</sup> , ADHA-881	*	*	*	24,300	*	
Loral <sup>™</sup> , HBC 291	426,900	404,000	314,400	307,300	411,300	33.84%
Mosaic <sup>®</sup> , HBC 369	4,578,000	4,542,100	5,810,800	7,422,600	8,926,900	20.27%
Mt. Hood	90,700	151,200	55,000	54,700	*	0.00%
Mt. Rainier	*	581,100	513,600	353,700	341,700	-3.39%
Nugget	243,800	188,700	240,600	*	*	
Pahto <sup>™</sup> , HBC 682	*	3,591,700	5,057,400	4,458,000	5,206,800	16.80%
Palisade <sup>®</sup> , YCR-4	1,261,300	1,257,100	1,202,000	520,000	621,400	19.50%
Pekko <sup>™</sup> , ADHA-871	*	173,800	*	992,400	2,217,000	
Sabro <sup>™</sup> , HBC 438	*	*	1,167,100	2,159,500	2,471,800	14.46%
Simcoe <sup>®</sup> , YCR 14	6,725,400	5,095,100	6,020,200	5,280,600	5,221,100	-1.13%
Sorachi Ace	*	152,100	*	*	*	
Summit <sup>™</sup>	3,342,300	2,874,100	1,946,800	701,400	590,400	-15.83%
Super Galena <sup>™</sup>	1,151,400	1,566,500	1,358,000	1,252,100	1,367,500	9.22%
Tahoma	380,200	448,700	450,300	281,100	409,300	45.61%
Tettnanger	45,700	*	*	*	*	
Warrior <sup>®</sup> YCR 5	*	*	*	472,300	286,700	
Willamette	825,700	506,800	430,900	296,000	158,400	-46.49%
Experimental	800,300	706,500	810,400	546,800	985,000	80.14%
Other Varieties	4,993,840	2,682,800	3,330,100	2,405,158	3,843,500	59.80%
Total Washington	79,083,800	77,727,700	82,014,900	74,151,500	84,608,200	14.10%
<b>Total Pacific Northwest</b>	<b>105,621,830</b>	<b>106,906,700</b>	<b>111,861,565</b>	<b>103,810,300</b>	<b>115,630,900</b>	<b>11.39%</b>
Other States Estimate <sup>1</sup>	1,875,000	1,500,000	1,000,000	1,000,000	900,000	-10.00%
<b>Total US Estimate</b>	<b>107,496,830</b>	<b>108,406,700</b>	<b>112,861,565</b>	<b>104,810,300</b>	<b>116,530,900</b>	<b>11.18%</b>

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

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

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



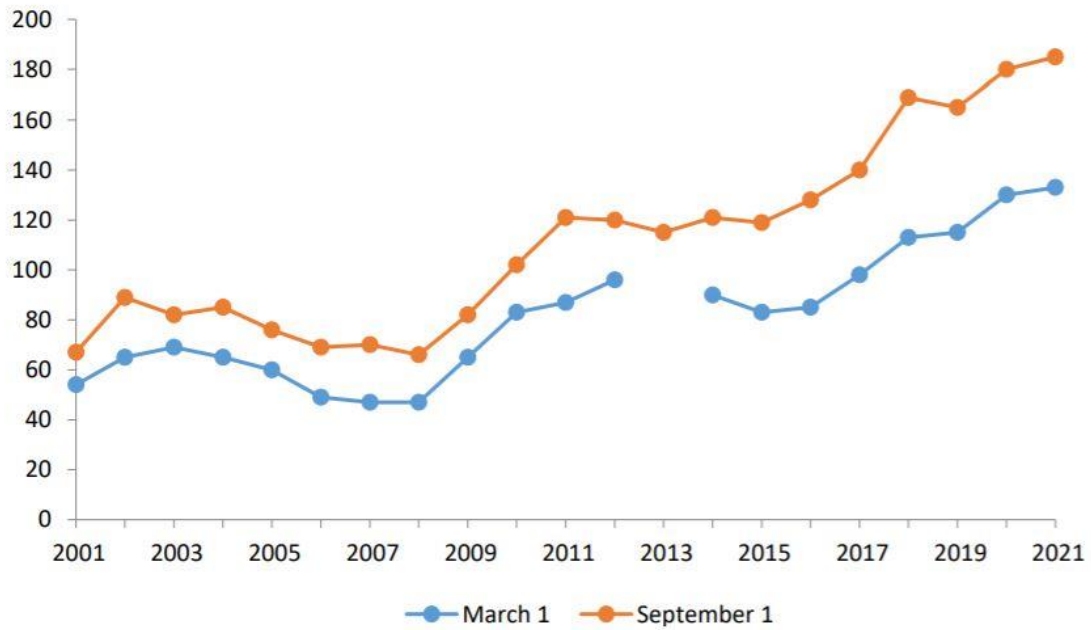
**U.S. HOPS: ESTIMATED SEASON AVERAGE PRICE & TOTAL CROP VALUE**

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
2021	\$5.70	\$5.90	\$5.70	\$5.72	115,631	\$661,618

SOURCE: USDA-NASS. Prepared by HGA.

**U.S. HOPS STOCKS**

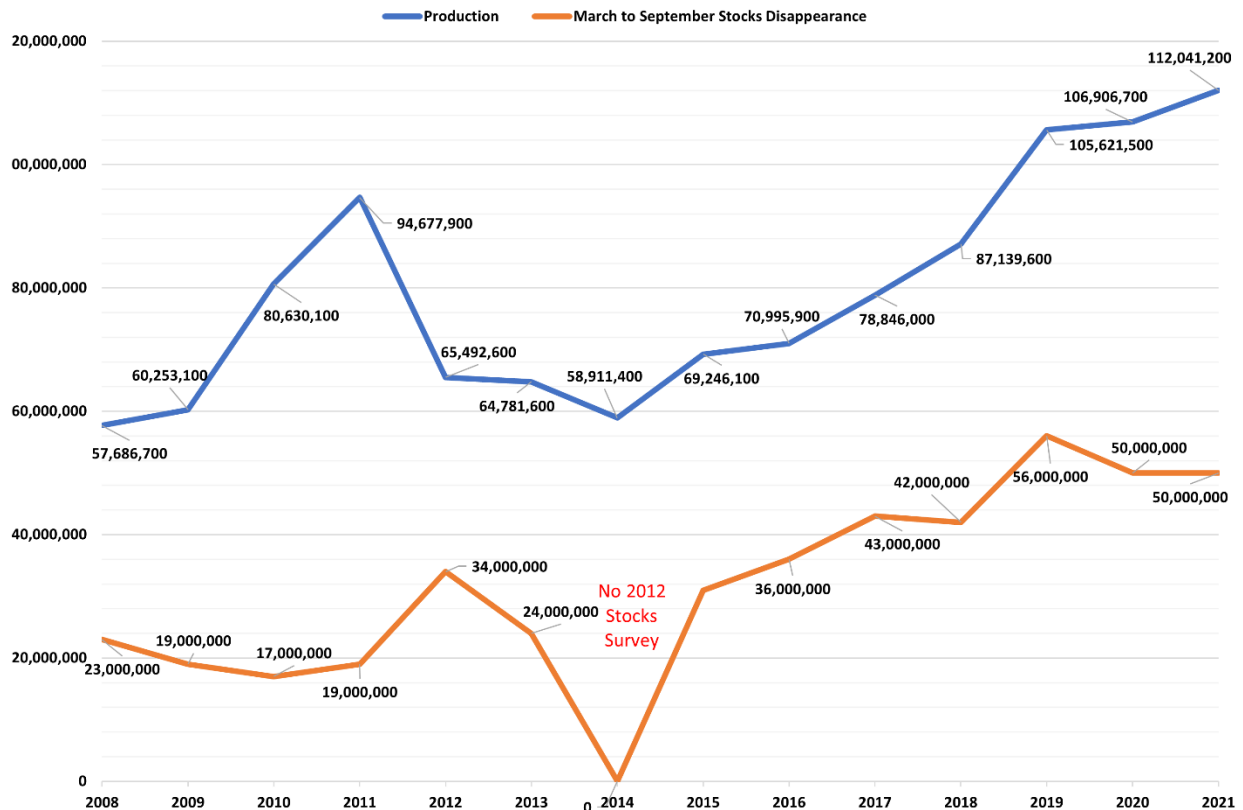
Million pounds



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**

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.

## 2021 HOP INSPECTION REPORT

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
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
2021	436,042	62,643	90,994	589,679

	0%	1%	2%	3%	4%	5%	6%	7%	TOTAL	AVERAGE
WA	306,417	102,151	22,901	2,876	1,158	300	239	0	436,042	0.38%
OR	57,727	4,410	506	0	0	0	0	0	62,643	0.09%
ID	47,532	32,482	7,901	1,843	800	236	200	0	90,994	0.65%
Total	411,676	139,043	31,308	4,719	1,958	536	439	0	589,679	0.39%
% of Total	70%	24%	5%	1%	0%	0%	0%	0%	100%	

	0%	1%	2%	3%	4%	5%	6%	7+%	TOTAL	AVERAGE
WA	247,603	87,663	37,559	23,980	14,167	7,505	6,278	11,287	436,042	1.02%
OR	38,238	10,063	6,205	3,484	2,402	614	486	1,151	62,643	0.91%
ID	61,792	8,964	6,720	3,351	1,978	1,008	1,342	1,464	86,619	0.13%
Total	347,633	106,690	50,484	30,815	18,547	9,127	8,106	13,902	585,304	0.97%
% of Total	59%	18%	9%	5%	3%	2%	1%	2%	100%	

SOURCE: State Hop Inspection Labs. Prepared by HGA.

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

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

SOURCE: State Hop Inspection Labs. Prepared by HGA.



**2021 US-GROWN HOP VARIETY CODES (INTERNATIONALLY HARMONIZED)**

<b>Brand/Variety</b>	<b>Code</b>	<b>Brand/Variety</b>	<b>Code</b>
Adeena <sup>®</sup> (ADHA-1940)	ADA	Lotus <sup>™</sup>	LOT
Ahhhroma <sup>™</sup>	AHH	Mckenzie	MKZ
Ahtanum <sup>®</sup> Brand YCR 1	AHT	Medusa <sup>™</sup>	MED
Alpharoma	AAA	Meridian	MER
Altus <sup>™</sup>	ATS	Millennium	MLM
Amarillo <sup>®</sup> , VGXP01	VG1	Mosaic <sup>®</sup> Brand HBC 369	MOS
Apollo <sup>™</sup>	APO	Mt. Hood	MTH
Aquila	AQU	Mt. Rainier	MTR
Azacca <sup>®</sup> , ADHA-483	AZA	Newport	NWP
Banner	BAN	Northern Brewer	NBR
Belma	BEL	Nugget	NUG
Bitter Gold	BIG	Olympic	OLC
Bravo <sup>™</sup>	BRO	Other	OTH
Brewers Gold	BGO	Pahto <sup>™</sup> Brand HBC 682	PAH
BRU-1	BR1	Palisade <sup>®</sup> Brand YCR 4	PAL
Bullion	BUL	Pekko <sup>®</sup> , ADHA-871	PEK
Calypso <sup>™</sup>	CPO	Perle	PER
Cascade	CAS	Saaz	SAZ
Cashmere	CMR	Sabro <sup>™</sup> Brand HBC 438	SAB
Centennial	CEN	Santiam	SNT
Chelan	CHE	Satus <sup>®</sup> , YCR 7	SAT
Chinook	CHI	Serebrianka	SEK
Citra <sup>®</sup> Brand HBC 394	CIT	Simcoe <sup>®</sup> Brand YCR 14	SIM
Cluster	CLU	Sonnet <sup>™</sup>	SON
Columbia	CBA	Sorachi Ace	SOR
Columbus	CBS	Spalter	SPA
Columbus/Tomahawk <sup>®</sup> /Zeus (CTZ)	CTZ	Sterling	STR
Comet	COM	Strata <sup>™</sup> , OR91331	STT
Contessa <sup>™</sup>	CTA	Strissel Spalt	FSP
Crystal	CRY	Summit <sup>™</sup>	SUM
Delta <sup>™</sup>	DEL	Sultana <sup>™</sup> (06277, formerly Denali <sup>™</sup> )	SUL
Ekuanot <sup>®</sup> Brand HBC 366	EKU	Super Galena <sup>™</sup>	SGA
El Dorado <sup>®</sup>	ELD	Tahoma	TAH
Eroica	ERO	Talisman	TLN
Eureka! <sup>™</sup>	EUE	Talus <sup>™</sup> HBC 692 c.v.	TAL
Experimental	EXP	Teamaker	TMK
Fuggle	FUG	Tettnanger	TET
Galena	GAL	Tillicum	TIL
Glacier	GLC	Tomahawk <sup>®</sup> , F10	TOM
Golding	GOL	Topaz	TOP
Hallertauer Mittelfruher	HAL	TriplePearl	TRP
Hallertauer Magnum	HMG	Triumph	TRI
Horizon	HOR	Ultra	ULT
Idaho7 <sup>®</sup>	ID7	Vanguard	VAN
Idaho Gem <sup>™</sup>	IDG	Warrior <sup>®</sup> Brand YCR 5	WAR
Jarrylo <sup>®</sup> , ADHA-881	JAR	Willamette	WIL
Lemondrop <sup>™</sup>	LDP	Yakima Gold	YKG
Liberty	LIB	YQH1320	Y20
Loral <sup>®</sup> Brand HBC 291	LOR	Zappa <sup>™</sup>	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)					2020-21
	2017	2018	2019	2020	2021	% +/-
Argentina	235	247	247	314	324	3.15%
Australia	1,102	1,184	1,176	1,354	1,460	7.85%
Austria	460	470	479	487	487	0.00%
Belgium	282	311	306	306	306	0.00%
Bulgaria				44	44	0.00%
Canada	541	541	541	494	494	0.00%
China	988	988	988	890	890	0.00%
Czech Rep.	11,325	11,562	11,629	11,454	11,419	-0.30%
France	991	1,048	1,087	1,021	1,107	8.47%
Germany	25,927	26,742	26,836	27,115	26,384	-2.70%
Japan	148	148	131	131	131	0.00%
New Zealand	917	917	1,478	1,478	1,478	0.00%
Poland	1,537	1,628	1,596	1,606	1,515	-5.69%
Romania	180	180	185	185	180	-2.67%
Russia	544	544	415	415	415	0.00%
Serbia	84	84	0	20	20	0.00%
Slovakia	339	339	319	94	94	0.00%
Slovenia	3,442	3,771	3,707	3,410	3,477	1.96%
South Africa	84	180	180	180	230	0.00%
Spain	0	0	0	0	15	0.00%
Ukraine	764	764	764	764	764	0.00%
UK - England	2,390	2,387	1,945	1,757	1,310	-25.46%
USA	43,904	42,639	44,425	47,456	50,148	5.67%
<b>IHGC Total</b>	<b>96,183</b>	<b>96,675</b>	<b>98,436</b>	<b>100,975</b>	<b>102,691</b>	<b>1.70%</b>

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2021 National Hop Report, released in December 2021. Numbers may not total exactly due to rounding and standard/metric conversions.

**IHGC ALPHA ACREAGE (FIVE YEARS)**

COUNTRY	ALPHA ACREAGE (IN ACRES)					2020-21
	2017	2018	2019	2020	2021	% +/-
Argentina	161	148	148	146	116	-20.34%
Australia	247	376	435	376	269	-28.29%
Austria	143	143	143	143	143	0.00%
Belgium	133	133	143	143	143	0.00%
Bulgaria				37	37	0.00%
Canada	494	494	494	371	371	0.00%
China	5,642	5,642	5,642	4,942	4,942	0.00%
Czech Rep.	114	111	121	151	151	0.00%
France	89	96	64	119	124	4.17%
Germany	18,716	20,918	22,025	22,620	22,915	1.30%
Japan	148	148	131	131	131	0.00%
New Zealand	175	175	358	358	358	0.00%
Poland	2,093	2,268	2,511	2,745	2,829	3.06%
Romania	474	487	457	465	472	1.60%
Russia	494	494	183	183	183	0.00%
Serbia	82	82	20	0	0	
Slovakia	0	0	0	0	0	0.00%
Slovenia	52	52	52	57	59	4.35%
South Africa	964	875	875	875	783	-10.45%
Spain	1,327	1,327	1,322	1,156	1,386	19.87%
Ukraine	148	148	148	148	148	0.00%
UK - England	0	418	423	388	346	-10.83%
USA	11,777	14,829	14,505	13,262	12,111	-8.68%
<b>IHGC Total</b>	<b>43,474</b>	<b>49,365</b>	<b>50,200</b>	<b>48,816</b>	<b>48,019</b>	<b>-1.63%</b>

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2021 National Hop Report, released in December 2021. Numbers may not total exactly due to rounding and standard/metric conversions.

**IHGC TOTAL ACREAGE (5 YEARS)**

COUNTRY	TOTAL ACREAGE (IN ACRES)					2020-21
	2017	2018	2019	2020	2021	% +/-
Argentina	395	395	395	460	440	-4.30%
Australia	1,559	1,611	1,730	1,836	1,945	5.92%
Austria	618	623	623	630	638	1.18%
Belgium	445	452	450	450	450	0.00%
Bulgaria				82	82	0.00%
Canada	1,035	1,035	1,035	865	865	0.00%
China	6,630	6,630	6,630	5,832	5,832	0.00%
Czech Rep.	12,220	12,405	12,363	12,271	12,284	0.10%
France	1,189	1,226	1,248	1,236	1,376	11.40%
Germany	48,293	49,778	50,452	51,167	50,957	-0.41%
Japan	297	297	262	262	262	0.00%
New Zealand	1,092	1,312	1,836	1,836	1,836	0.00%
Poland	3,894	3,894	4,156	4,344	4,344	0.00%
Romania	667	684	650	655	660	0.75%
Russia	1,161	1,161	628	628	628	0.00%
Serbia	195	195	20	20	20	0.00%
Slovakia	339	339	329	94	94	0.00%
Slovenia	3,929	4,119	3,944	3,657	3,793	3.72%
South Africa	1,048	1,055	1,055	1,050	1,013	-3.53%
Spain	1,327	1,327	1,322	1,374	1,404	2.16%
Ukraine	912	912	912	912	912	0.00%
UK - England	2,390	2,387	2,367	2,142	1,656	-22.72%
USA	55,681	57,468	58,930	60,718	62,259	2.54%
<b>IHGC Total</b>	<b>145,316</b>	<b>149,306</b>	<b>151,337</b>	<b>152,519</b>	<b>153,747</b>	<b>0.80%</b>

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 2021**

COUNTRY	2021 HOP ACREAGE (acres)				2021 HOP PRODUCTION (pounds)			
	AROMA	ALPHA	NEW	TOTAL	AROMA	ALPHA	TOTAL	Alpha MT.
Argentina	324	116	0	440	434,306	156,527	590,833	26
Australia	1,460	269	215	1,945	3,375,243	381,396	3,756,638	272
Austria	487	143	7	638	597,447	242,506	839,953	36
Belgium	306	143	0	450	346,122	299,826	645,948	29
Bulgaria	44	37	0	82	77,161	66,138	143,299	8
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.	11,419	151	714	12,284	18,209,996	308,644	18,518,640	395
France	1,107	121	148	1,376	1,849,659	216,051	2,065,710	58
Germany	26,384	22,915	1,656	50,957	47,442,992	57,319,600	104,762,592	6,191
Japan	131	131	0	262	180,777	264,552	445,329	25
New Zealand	1,478	358	0	1,836	2,204,600	551,150	2,755,750	115
Poland	1,515	2,829	12	4,344	2,142,871	5,326,314	7,469,185	287
Romania	180	472	7	660	209,437	275,575	485,012	23
Russia	415	183	30	628	198,414	330,690	529,104	20
Serbia	0	0	20	20	0	0	0	2
Slovakia	94	0	0	94	66,138	0	66,138	1
Slovenia	3,477	59	257	3,793	4,629,660	189,596	4,819,256	114
South Africa	230	783	0	1,013	343,918	1,287,486	1,631,404	102
Spain	15	1,386	40	1,404	10	2,083,347	2,083,357	112
Ukraine	764	148	0	912	881,840	176,368	1,058,208	30
England	1,310	346	0	1,656	1,538,811	471,784	2,010,595	65
USA	50,148	12,111	0	62,259	85,211,192	31,319,708	116,530,900	5,920
<b>IHGC Total</b>	<b>102,671</b>	<b>48,016</b>	<b>3,106</b>	<b>153,747</b>	<b>171,865,210</b>	<b>116,258,537</b>	<b>288,123,746</b>	<b>14,484</b>

SOURCE: IHGC Economic Commission November report. US hop acreage is updated to reflect the USDA-NASS 2021 National Hop Report., released in December 2021. 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.

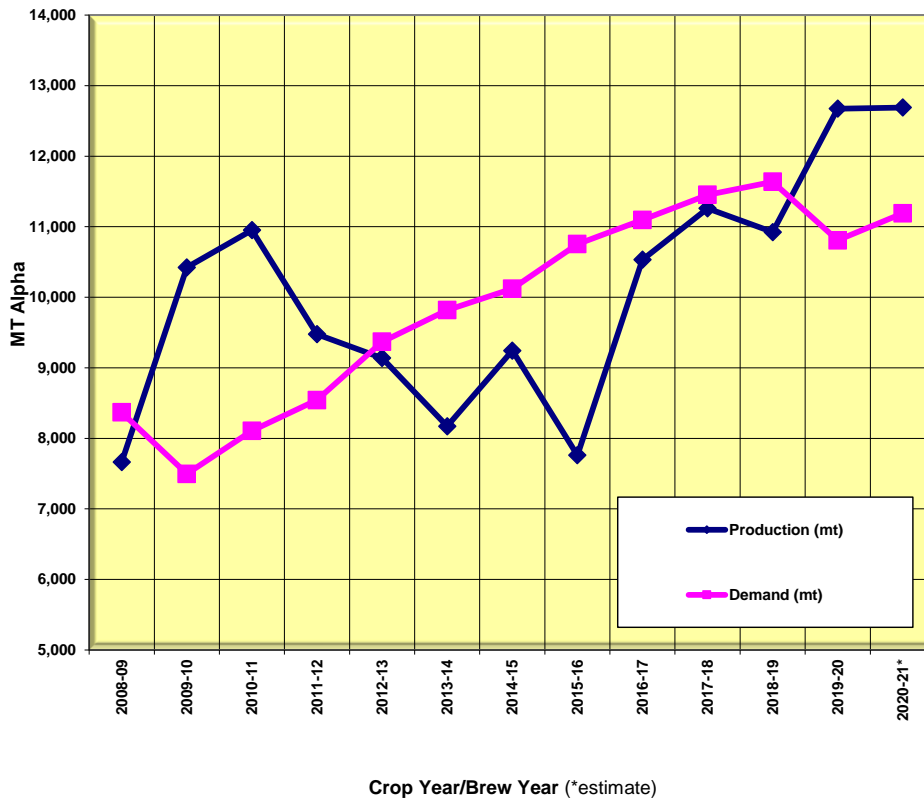
**U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)**

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 % *
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%	103,347	46,878	5,438	11.6%
2021*	116,531	52,858	5,920	11.2%	104,851	47,520	6,191	13.0%

\*2021 figures are estimated at time of publication.

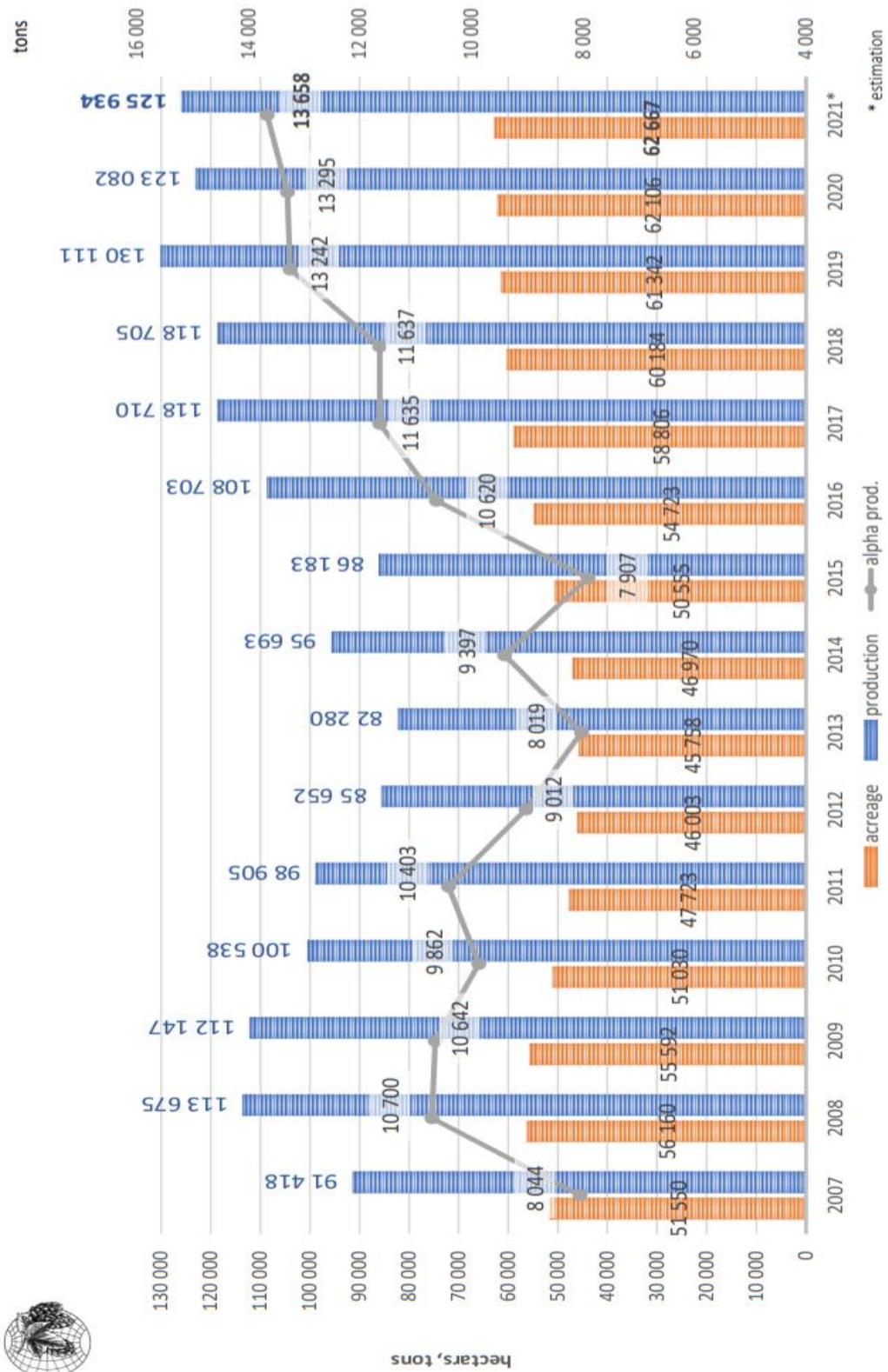
US figures include an estimate for non-PNW states, added to the Pacific Northwest production estimated by US hop merchant sources, based on EBC 7.4 method of analysis. Conversion factor of 90% is used to convert Spectro to EBC 7.4. German estimated alpha figure was also provided by hop merchant contacts.

**WORLD ALPHA PRODUCTION & DEMAND**



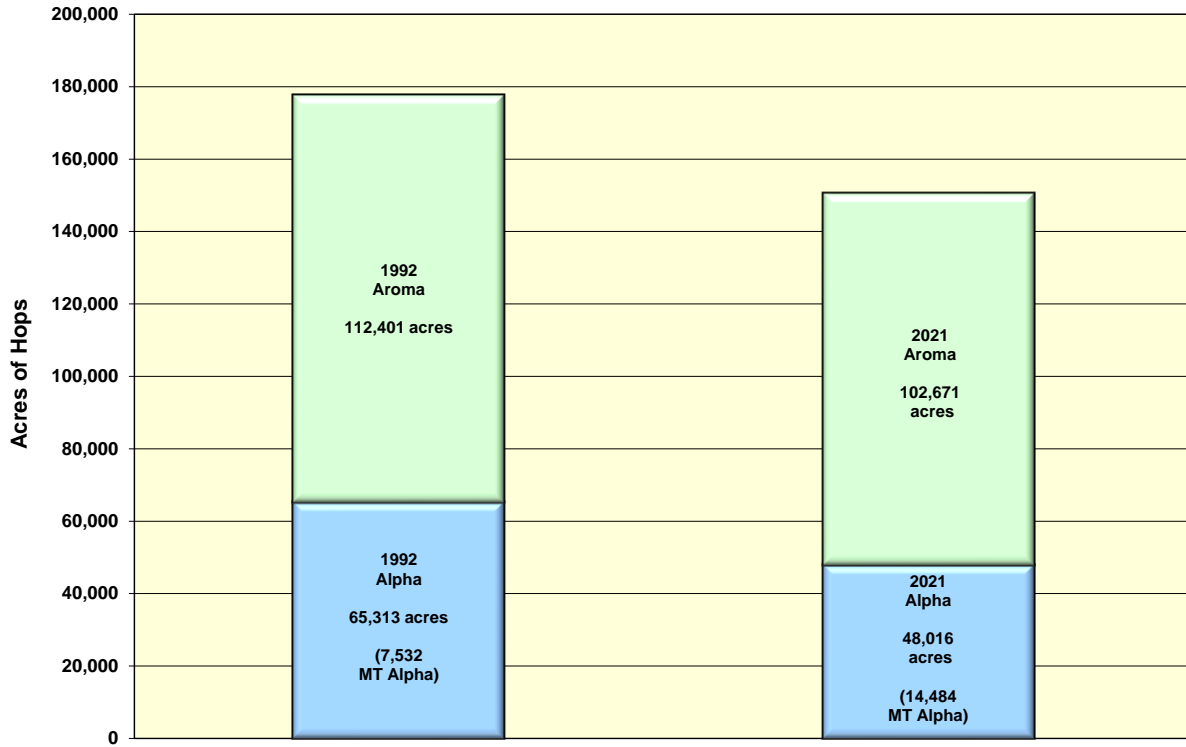
SOURCE: BarthHaas Report. 2021-2022. Prepared by HGA.

COMPARISON OF IHGC CROPS 2007-2021



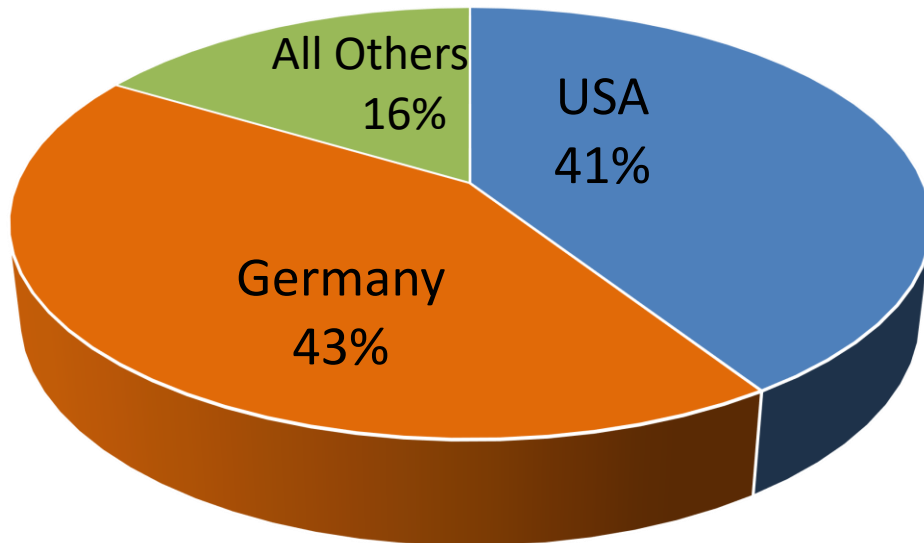
SOURCE: IHGC November Report. Prepared by HGA.

**COMPOSITION OF WORLD HOP ACREAGE - 1992 VERSUS 2021**



SOURCE: IHGC November Report and USDA-NASS December 2021 National Hop Report. Prepared by HGA.

**WORLD'S LARGEST ALPHA PRODUCERS – 2021**



SOURCE: IHGC November Report. Prepared by HGA.

**WORLD HOP ACREAGE & PERCENT SHARE (acres)**

COUNTRY	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
USA	29,683	35,288	38,892	45,238	52,980	55,681	57,468	58,930	61,027	62,259
	27%	32%	34%	38%	39%	38%	38%	39%	40%	40%
Germany	40,887	38,895	39,782	41,253	45,958	48,293	49,778	50,452	51,167	50,957
	37%	35%	34%	34%	34%	33%	33%	33%	34%	33%
Czech Rep.	10,564	10,178	10,018	10,359	11,800	12,220	12,405	12,363	12,271	12,284
	10%	9%	9%	9%	9%	8%	8%	8%	8%	8%
China	9,961	7,413	6,548	5,684	4,942	6,630	6,630	6,630	5,832	5,832
	9%	7%	6%	5%	4%	5%	4%	4%	4%	4%
England	2,597	2,597	2,291	2,209	2,212	2,390	2,387	2,367	2,145	1,656
	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%
Europe (rest)	11,842	11,897	14,881	11,711	13,015	13,515	13,771	13,653	13,245	13,771
	11%	11%	13%	10%	10%	9%	9%	9%	9%	9%
World (rest)	3,575	3,650	3,508	3,544	3,793	5,552	5,831	5,906	6,104	6,123
	3%	3%	3%	3%	3%	4%	4%	4%	4%	4%
World Totals	109,109	109,918	115,920	119,994	134,700	145,316	149,305	151,337	152,656	153,747

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 2021 report. US hop acreage updated to reflect USDA-NASS National Hop Report, released in December 2021.

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

COUNTRY	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
USA	61,316	69,343	70,997	80,203	88,616	106,240	108,407	113,041	104,810	116,531
	31%	39%	34%	42%	37%	41%	42%	40%	39%	40%
Germany	76,059	60,746	84,657	62,170	94,136	91,614	91,932	106,703	103,616	104,763
	39%	34%	41%	33%	40%	35%	35%	38%	38%	36%
Czech	9,480	11,750	13,007	10,582	15,653	14,985	11,243	15,212	13,117	18,519
	5%	7%	6%	6%	7%	6%	4%	5%	5%	6%
China	26,334	13,228	13,228	13,228	9,921	15,529	15,529	15,529	15,529	15,529
	13%	7%	6%	7%	4%	6%	6%	5%	6%	5%
England	3,217	2,723	2,205	2,866	3,197	3,924	3,036	3,739	2,037	2,011
	2%	2%	1%	2%	1%	1%	1%	1%	1%	1%
Europe (rest)	14,777	14,202	17,791	14,874	18,466	19,440	20,035	19,204	20,287	19,676
	7%	8%	9%	8%	8%	7%	8%	7%	7%	7%
World (rest)	6,309	6,446	6,231	6,444	6,351	9,976	10,450	10,470	11,530	11,096
	3%	4%	3%	3%	3%	4%	4%	4%	4%	4%
World Totals	197,492	178,438	208,116	190,367	236,340	261,708	260,632	283,898	270,927	288,124

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 (2017-2021)**

Rank	Destination Partner	September-August Quantities (MT)				
		2017	2018	2019	2020	2021
1	Belgium-Luxembourg	1622.0	2138.9	2467.2	2318.9	3151.4
2	Brazil	771.3	1473.8	1584.4	1768.0	2275.7
3	Germany	1124.1	1677.9	1896.6	2226.5	2127.6
4	United Kingdom	3302.5	2556.6	2028.2	1973.9	2110.6
5	Canada	1379.6	1693.2	2106.4	2499.7	2072.8
6	Australia	567.6	734.1	963.6	751.2	1027.1
7	China	781.2	1155.8	953.1	967.0	938.9
8	Argentina	310.0	776.6	521.1	817.3	796.8
9	Mexico	801.2	811.7	810.4	588.1	725.6
10	Japan	608.7	459.8	447.4	515.9	486.5
11	Chile	57.4	92.3	181.0	222.2	297.2
12	Hong Kong	200.4	80.0	118.1	184.3	286.1
13	Korea, South	279.8	340.3	233.6	219.0	277.6
14	Vietnam	123.4	195.0	296.3	355.5	268.5
15	Colombia	673.0	607.0	558.2	196.5	220.5
16	New Zealand	108.4	87.0	188.9	146.9	219.6
17	Peru	274.4	254.1	229.1	122.6	154.5
18	Russia	238.2	89.8	94.9	97.7	145.9
19	Dominican Republic	125.8	95.3	98.5	93.8	117.1
20	Netherlands	43.4	15.6	57.3	100.1	111.7
21	South Africa	123.0	99.7	118.7	36.5	75.1
22	Ireland	89.6	27.8	48.3	69.9	74.0
23	Sweden	4.1	5.7	12.1	55.5	69.2
24	Philippines	149.6	186.2	125.9	141.2	66.4
25	Ecuador	66.0	94.7	130.4	46.4	63.1
26	Panama	38.4	66.6	66.4	40.4	61.8
27	Guatemala	63.4	36.3	45.1	50.6	47.4
28	India	104.9	80.0	142.1	25.6	44.3
29	El Salvador	21.0	24.4	35.9	24.6	38.3
30	Venezuela	21.0	27.3	17.2	2.2	34.8
31	Cambodia	40.3	17.5	48.0	26.5	28.5
32	Honduras	24.2	31.2	26.7	18.7	25.5
33	Uruguay	49.9	14.7	13.0	49.0	23.1
34	Spain	8.7	5.6	7.0	5.0	22.7
35	Czech Republic	62.5	25.3	29.0	12.0	21.6
36	Paraguay	6.3	15.8	28.1	35.0	20.3
37	Taiwan	4.8	32.9	28.9	21.2	19.6
38	Costa Rica	11.9	6.3	4.1	3.0	18.4
39	Thailand	25.4	12.4	39.1	1.7	18.2
40	Indonesia	15.9	17.9	18.0	22.6	17.2
	Total Top 40 Countries	14,323.3	16,163.1	16,818.3	16,852.7	18,601.2
	All Other Countries	276.9	259.0	227.8	212.1	187.9
	<b>Grand Total</b>	<b>14,600.2</b>	<b>16,422.1</b>	<b>17,046.1</b>	<b>17,064.8</b>	<b>18,789.1</b>

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 equivalent.



**U.S. IMPORTS OF HOPS (FIVE YEARS)**

Rank	Partner	September-August Quantities (MT)				
		2017	2018	2019	2020	2021
1	Germany	3,349.9	3,427.2	3,064.0	2,909.8	3,089.4
2	New Zealand	307.6	396.9	372.4	954.4	919.5
3	Australia	600.9	621.9	670.2	750.9	399.8
4	Czech Republic	210.2	97.6	82.0	86.1	163.9
5	United Kingdom	496.9	423.2	426.5	209.5	134.7
6	Canada	39.8	47.8	37.0	32.2	25.2
7	Slovenia	182.3	92.9	23.7	45.8	22.5
8	China	28.4	30.7	78.8	49.8	11.5
9	Belgium-Luxembourg	17.9	0.2	15.8	0.2	10.5
10	Ethiopia	7.8	0.8	6.1	1.8	6.7
11	Italy	15.5	10.8	17.9	13.9	6.2
12	Austria	0.0	0.0	6.9	1.4	5.7
13	France	54.0	21.1	29.4	2.8	4.1
14	Poland	0.0	0.0	0.4	0.0	2.1
15	Argentina	0.0	1.0	6.7	0.0	0.0
16	Chile	0.0	0.0	0.0	1.3	0.0
17	Hong Kong	0.0	10.1	13.0	0.0	0.0
18	Slovakia	4.5	0.0	0.0	0.0	0.0
19	Russia	0.0	0.0	0.4	0.0	0.0
20	South Africa	31.8	5.0	43.1	118.8	0.0
21	Sierra Leone	0.0	0.0	33.7	37.2	0.0
22	Spain	0.0	0.1	0.0	0.0	0.0
	<b>Grand Total</b>	<b>5,347.5</b>	<b>5,187.3</b>	<b>4,928.0</b>	<b>5,215.9</b>	<b>4,801.8</b>

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) – 2019-20 (MILLION HL)**

<b>Brewery</b>	<b>2019 Production</b>	<b>2019 % Share</b>	<b>2020 Production</b>	<b>2020 % Share</b>
ABInBev	561.4	29.3%	467.4	25.7%
Heineken	241.4	12.6%	221.6	12.2%
Carlsberg	112.5	5.9%	110.1	6.1%
China Res. Snow Breweries	114.3	6.0%	106.9	5.9%
Molson-Coors	92.7	4.8%	84.5	4.6%
Tsingtao Brewery Group	80.5	4.2%	80.0	4.4%
Asahi	57.3	3.0%	56.3	3.1%
BGI/Groupe Castel	36.7	1.9%	36.7	2.0%
Efes Group	36.2	1.9%	36.2	2.0%
Yanjing	38.2	2.0%	35.3	1.9%
<b>Top 10 total</b>	<b>1,371.2</b>	<b>71.6%</b>	<b>1,235.0</b>	<b>67.9%</b>

The top 3 brewing groups controlled 44% of the market share in 2020, down from 47.9% in 2019.

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

Source: Barth Report 2020-21

**FOR AN INTERESTING COMPARISON, HERE IS THE RANKING FOR WORLD BEER PRODUCTION BY BREWERY (TOP 10) FOR 1988 (MILLION HL) - 33 YEARS AGO**

<b>Brewery</b>	<b>1988 Production</b>	<b>1988 % Share</b>
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%
<b>Top 10 total</b>	<b>344</b>	<b>26%</b>

**WORLD BEER PRODUCTION (FIVE YEARS - MILLION HL)**

<b>Country</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021*</b>
Germany	93.5	91.6	87.0	89.5
Russia	70.0	73.0	74.0	84.5
Poland	40.9	39.9	34.6	41.0
England	43.0	41.0	37.0	40.0
Spain	38.1	39.5	25.0	37.8
Belgium	21.5	22.5	19.1	25.2
Netherlands	24.5	21.0	20.5	23.5
France	21.9	24.9	19.4	21.5
Czech Republic	20.8	22.4	17.9	17.8
Romania	19.2	18.2	17.8	17.8
Ukraine	18.0	19.2	17.6	17.3
Italy	15.8	16.0	14.6	16.0
Austria	9.8	9.9	9.3	9.9
Turkey	9.3	9.3	8.5	9.5
Ireland	8.0	8.1	7.4	8.1
Portugal	6.7	6.7	6.1	6.8
Other Europe	67.0	66.7	95.0	64.6
<b>Total Europe</b>	<b>528.0</b>	<b>529.9</b>	<b>510.8</b>	<b>530.8</b>
USA	214.4	214.0	210.0	214.0
Brazil	140.0	140.0	135.0	140.0
Mexico	115.0	116.0	112.0	116.0
Colombia	22.8	22.9	22.0	22.9
Canada	22.1	22.1	21.8	22.1
Argentina	19.2	19.2	19.0	19.2
Peru	14.5	14.5	14.0	14.5
Chile	8.4	8.7	8.6	8.7
Other Americas	43.9	43.9	41.8	43.0
<b>Total Americas</b>	<b>600.3</b>	<b>601.3</b>	<b>584.2</b>	<b>600.4</b>
P.R. China	382.0	375.0	337.4	335.0
Japan	49.0	52.5	44.9	52.0
Vietnam	43.5	44.8	36.0	41.0
India	24.0	25.2	22.0	24.0
Philippines	19.5	19.5	16.0	19.5
Thailand	24.0	24.0	20.5	17.5
South Korea	20.0	18.2	17.0	17.0
Other Asia	49.0	53.8	47.3	58.2
<b>Total Asia</b>	<b>611.0</b>	<b>613.0</b>	<b>541.1</b>	<b>564.2</b>
South Africa	32.6	33.1	24.8	30.0
Nigeria	17.0	17.5	14.1	17.0
Other Africa	92.7	94.9	81.5	91.3
<b>Total Africa</b>	<b>142.3</b>	<b>145.5</b>	<b>120.4</b>	<b>138.3</b>
Australia	17.6	17.5	16.1	17.5
New Zealand	3.0	3.0	2.8	2.7
Oceania	1.3	1.3	1.3	1.3
<b>Total Australia</b>	<b>22.3</b>	<b>22.1</b>	<b>20.4</b>	<b>21.8</b>
<b>WORLD TOTALS</b>	<b>1,903.9</b>	<b>1,911.8</b>	<b>1,747.2</b>	<b>1,855.5</b>

\* Estimate

Source: S.S. Steiner 2021 Guidelines for Hop Buying