



# 2016

## *STATISTICAL REPORT*

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VERSION 2

PRESENTED BY  
HOP GROWERS OF AMERICA



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Conversions used while compiling  
the data presented in this document:

1 hectare = 2.4711 acres  
1 acre = 0.405 hectares  
1 kilogram = 2.2046 pounds  
1 pound = 0.45 kilograms  
1 metric tonne = 2204.6 pounds  
1 hectoliter = 21.997 gallons  
1 zentner = 110.23 pounds

***Editor's Note:*** For 2016 the North American Hop Acreage chart on pages 4-5 has been enhanced to include estimates for 25 additional states and 7 Canadian provinces, in addition to the three Pacific Northwest states where commercial hops were traditionally grown. Data for Oregon, Washington and Idaho was provided by the USDA-NASS 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. We will continue to expand and refine data collection for these and other new hop producing states in future years, including the addition of yield and production calculations.

***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

As brewers continue to demand more aroma hops, US hop acreage and production increased again this year, while average yield per acre continued to decline, largely due to the increasing share of the crop planted to lower yielding varieties, along with new and replanted acreage yielding less than a mature crop. Still, the 2016 hop harvest saw an 11% increase (8.3 million more pounds), just short of 89 million pounds.

According to the USDA National Agriculture Statistics Service (NASS) National Hop Report, released on December 16, production increased 11% in 2016, rising in all three major producing states of Idaho, Oregon, and Washington, following a 16.5% increase in this year's acreage. Ultimately, 2016 saw a 94 pound drop in yield per acre. A combination of baby acreage, lower yielding aroma varieties, poor high alpha variety performance, and pests/disease/climate challenges contributed to this decrease.

Since 2012 (5 years) US hop acreage has increased 72%, with a corresponding production increase of 51% and yield decrease of 21%. During that period the variety balance has shifted from roughly 50-50 alpha and aroma/dual purpose hops in 2012 to over 80% aroma/dual purpose varieties in 2016.

There has been much discussion regarding price increases, but the limited availability of price data for the US crop provides little insight into these impacts on growers. It is well understood that lower yielding varieties must be priced higher to maintain a consistent gross income per acre. As shown in the following chart, the gross return per acre finally caught up with the true cost of production this year (as estimated in the 2015 Washington State University PNW Hop Cost of Production Study). The WSU study estimated the annual cost of producing standard trellis hops under drip irrigation in the PNW at \$9,806 per acre (including fixed costs).

Year	PNW Acres Harvested	PNW Production (pounds)	Yield	Value of production (\$1,000)	Gross \$ per acre
2010	31,289	65,492,600	2,093	\$214,589	\$6,858
2011	29,787	64,781,600	2,175	\$203,378	\$6,828
2012	29,683	58,911,400	1,985	\$186,876	\$6,296
2013	35,288	69,246,100	1,962	\$232,308	\$6,583
2014	38,011	70,995,900	1,868	\$260,627	\$6,857
2015	43,633	78,846,000	1,807	\$345,388	\$7,916
2016	50,857	87,139,600	1,713	\$498,420	\$9,800

Source: USDA-NASS, prepared by HGA

Growers have experienced dramatic increases in the cost of production in recent years, including expansion of harvesting and production capacity, updating equipment, support of proprietary hop breeding programs through royalties and other contributions, increasing labor costs (including health care and other benefits), etc. Administrative and operating costs associated with food safety, sustainability and best practices compliance and other customer requirements have also increased.

**NORTH AMERICAN HOP ACREAGE BY STATE/PROVINCE AND VARIETY (FIVE YEARS)**

STATE/PROVINCE & VARIETY	ACRES HARVESTED					2015-16
	2012	2013	2014	2015	2016	% +/-
<b>ARIZONA</b>	*	*	*	1.0	1.0	0.00%
<b>CALIFORNIA</b>	*	*	65.0	85.0	130.0	52.94%
<b>COLORADO</b>	*	*	*	125.0	200.0	60.00%
<b>CONNECTICUT</b>	*	*	*	*	15.0	
<b>IDAHO #</b>						
Apollo™	*	291.0	285.0	286.0	235.0	-17.83%
Bravo™	*	136.0	126.0	166.0	151.0	-9.04%
Calypso	*	*	*	81.0	81.0	0.00%
Cascade	*	628.0	821.0	770.0	788.0	2.34%
Centennial	*	57.0	74.0	*	*	
Chinook	*	324.0	344.0	358.0	418.0	16.76%
Citra®, HBC 394	*	19.0	91.0	412.0	576.0	39.81%
Crystal	*	*	29.0	*	123.0	
El Dorado®	*	14.0	63.0	205.0	227.0	10.73%
Mosaic®, HBC 369	*	*	*	272.0	496.0	82.35%
Simcoe®, YCR 14	*	*	67.0	199.0	232.0	16.58%
Super Galena™	*	275.0	161.0	92.0	69.0	-25.00%
Zeus	*	548.0	662.0	661.0	580.0	-12.25%
Experimental	*	5.0	41.0	72.0	9.0	-87.50%
Other Varieties	*	1,059.0	979.0	1,289.0	1,663.0	29.01%
<b>TOTAL IDAHO #</b>	2,596.0	3,356.0	3,743.0	4,863.0	5,648.0	16.14%
<b>ILLINOIS</b>	*	*	10.0	30.0	30.0	0.00%
<b>INDIANA</b>	*	*	8.0	25.0	50.0	100.00%
<b>IOWA</b>	*	*	*	30.0	40.0	33.33%
<b>KENTUCKY</b>	*	*	*	*	20.0	
<b>MAINE</b>	*	*	10.0	11.5	24.0	108.70%
<b>MARYLAND</b>	*	*	*	15.0	15.0	0.00%
<b>MICHIGAN</b>	*	*	300.0	320.0	650.0	103.13%
<b>MINNESOTA</b>	*	*	20.0	26.0	73.0	180.77%
<b>MONTANA</b>	*	*	1.0	1.0	12.0	1100.00%
<b>NEBRASKA</b>	*	*	12.0	17.0	24.0	41.18%
<b>NEW HAMPSHIRE</b>	*	*	*	*	2.0	
<b>NEW JERSEY</b>	*	*	*	*	15.0	
<b>NEW YORK</b>	*	*	150.0	250.0	300.0	20.00%
<b>NORTH CAROLINA</b>	*	*	30.0	40.0	30.0	-25.00%
<b>NORTH DAKOTA</b>	*	*	*	*	2.0	
<b>OHIO</b>	*	*	30.0	50.0	70.0	40.00%
<b>OREGON #</b>						
Cascade	346.0	423.0	961.0	1,085.0	1,211.0	11.61%
Centennial	208.0	249.0	443.0	631.0	723.0	14.58%
Chinook	*	*	*	129.0	107.0	-17.05%
Citra®, HBC 394	*	*	*	246.0	654.0	165.85%
Crystal	*	*	*	377.0	423.0	12.20%
Fuggle	*	91.0	*	85.0	141.0	65.88%
Golding	*	194.0	234.0	238.0	*	
Liberty	83.0	*	*	210.0	*	
Magnum	58.0	104.0	176.0	199.0	151.0	-24.12%
Mt. Hood	226.0	221.0	269.0	288.0	324.0	12.50%
Nugget	1,570.0	1,667.0	1,363.0	1,484.0	1,460.0	-1.62%
Perle	*	55.0	100.0	*	*	
Simcoe®, YCR 14	*	*	*	191.0	330.0	72.77%
Sterling	*	122.0	130.0	209.0	228.0	9.09%
Super Galena™	175.0	204.0	125.0	82.0	*	
Tettnanger	61.0	*	*	133.0	122.0	-8.27%
Willamette	905.0	553.0	564.0	661.0	833.0	26.02%
Experimental	*	35.0	*	*	*	
Other Varieties	759.0	917.0	1,045.0	364.0	1,058.0	190.66%
<b>TOTAL OREGON #</b>	4,391.0	4,835.0	5,410.0	6,612.0	7,765.0	17.44%
<b>PENNSYLVANIA</b>	*	*	*	5.5	15.0	172.73%
<b>RHODE ISLAND</b>	*	*	*	*	10.0	
<b>VERMONT</b>	*	*	25.0	45.0	25.0	-44.44%
<b>VIRGINIA</b>	*	*	25.0	30.0	30.0	0.00%

STATE/PROVINCE & VARIETY	ACRES HARVESTED					2015-16
	2012	2013	2014	2015	2016	% +/-
<b>WASHINGTON #</b>						
Azacca™, ADHA-483	*	*	79.0	175.0	506.0	189.14%
Ahtanum™	176.0	211.0	194.0	145.0	155.0	6.90%
Apollo™	874.0	701.0	700.0	708.0	735.0	3.81%
Bravo™	528.0	493.0	584.0	569.0	573.0	0.70%
Cascade	2,380.0	4,237.0	4,837.0	4,935.0	5,582.0	13.11%
Centennial	1,478.0	1,869.0	2,836.0	3,770.0	4,359.0	15.62%
Chinook	1,215.0	1,415.0	1,297.0	1,300.0	1,415.0	8.85%
Citra®, HBC 394	538.0	1,296.0	1,670.0	2,335.0	3,264.0	39.79%
Cluster	546.0	802.0	728.0	666.0	623.0	-6.46%
Columbus/Tomahawk®	2,223.0	2,336.0	1,738.0	1,673.0	1,416.0	-15.36%
Comet	*	*	*	108.0	163.0	50.93%
Crystal	154.0	214.0	181.0	131.0	191.0	45.80%
El Dorado®	*	82.0	82.0	243.0	396.0	62.96%
Galena	954.0	440.0	306.0	295.0	262.0	-11.19%
Glacier	56.0	98.0	126.0	155.0	145.0	-6.45%
Golding	*	105.0	94.0	53.0	*	
Jarrylo™, ADHA-881	*	*	75.0	122.0	131.0	7.38%
Magnum	*	*	*	108.0	*	
Millennium	397.0	420.0	113.0	*	*	
Mosaic®, HBC 369	*	382.0	671.0	1,528.0	2,029.0	32.79%
Mt. Hood	120.0	168.0	150.0	130.0	88.0	-32.31%
Northern Brewer	120.0	170.0	131.0	123.0	*	
Nugget	875.0	395.0	265.0	202.0	186.0	-7.92%
Palisade®, YCR-4	264.0	132.0	223.0	454.0	580.0	27.75%
Simcoe®, YCR 14	940.0	1,298.0	1,819.0	2,916.0	3,769.0	29.25%
Summit™	*	2,844.0	2,522.0	1,620.0	1,769.0	9.20%
Super Galena™	959.0	771.0	606.0	351.0	310.0	-11.68%
Tettnanger	76.0	95.0	*	*	*	
Vanguard	59.0	76.0	58.0	84.0	*	
Warrior®, YCR-5	195.0	180.0	192.0	*	*	
Willamette	692.0	522.0	595.0	698.0	728.0	4.30%
Zeus	2,953.0	3,277.0	3,375.0	2,989.0	2,502.0	-16.29%
Experimental	*	258.0	392.0	316.0	567.0	79.43%
Other	3,924.0	1,810.0	2,219.0	3,256.0	5,000.0	53.56%
<b>TOTAL WASHINGTON #</b>	<b>22,696.0</b>	<b>27,097.0</b>	<b>28,858.0</b>	<b>32,158.0</b>	<b>37,444.0</b>	<b>16.44%</b>
<b>WISCONSIN</b>	*	*	120.0	170.0	297.0	74.71%
<b>TOTAL PACIFIC NORTHWEST</b>	<b>29,683.0</b>	<b>35,288.0</b>	<b>38,011.0</b>	<b>43,633.0</b>	<b>50,857.0</b>	<b>16.56%</b>
<b>TOTAL NON-PNW US</b>	*	*	<b>881.0</b>	<b>1,277.0</b>	<b>2,106.0</b>	<b>64.92%</b>
<b>TOTAL UNITED STATES</b>	<b>29,683.0</b>	<b>35,288.0</b>	<b>38,892.0</b>	<b>44,910.0</b>	<b>52,963.0</b>	<b>17.93%</b>
<b>BRITISH COLUMBIA</b>				79.0	79.0	0.00%
<b>MANITOBA</b>				5.0	5.0	0.00%
<b>NEW BRUNSWICK</b>				20.0	20.0	0.00%
<b>NOVA SCOTIA</b>				15.0	15.0	0.00%
<b>ONTARIO</b>				60.0	90.0	50.00%
<b>PRINCE EDWARD ISLAND</b>				7.5	7.5	0.00%
<b>QUEBEC</b>				70.0	123.0	75.71%
<b>TOTAL CANADA</b>				<b>256.5</b>	<b>339.5</b>	<b>32.36%</b>
<b>TOTAL NORTH AMERICA</b>	<b>29,683.0</b>	<b>35,288.0</b>	<b>38,892.0</b>	<b>45,166.5</b>	<b>53,302.5</b>	<b>18.01%</b>

# Figures for WA, OR and ID from USDA-NASS 2016 National Hop Report, released on December 16, 2016. Information for other states/provinces are estimates provided to Hop Growers of America by various sources and include several varieties.

SOURCE: USDA-NASS (for Idaho, Oregon and Washington) and Hop Growers of America (for remaining state estimates). Prepared by HGA.

<sup>1</sup> Prior to 2013, only State totals were published for Idaho to avoid disclosure of individual operations.

<sup>2</sup> "Other Varieties" includes data to avoid disclosure of individual operations.

## HOP YIELDS BY STATE AND VARIETY (FIVE YEARS)

STATE & VARIETY	YIELDS (POUNDS PER ACRE)					2015-16 % +/-
	2012	2013	2014	2015	2016	
<b>IDAHO</b>						
Apollo <sup>TM</sup>	*	2,230	2,004	2,062	1,893	-8.20%
Bravo <sup>TM</sup>	*	2,430	2,579	2,625	2,359	-10.13%
Calypso	*	*	*	1,710	1,937	13.27%
Cascade	*	1,224	1,746	1,633	1,585	-2.94%
Centennial	*	1,004	754	*	*	
Chinook	*	1,801	1,673	1,850	1,712	-7.46%
Citra®, HBC 394	*	1,011	1,200	1,271	1,213	-4.56%
Crystal	*	*	2,186	*	1,678	
El Dorado®	*	971	1,144	1,125	1,658	47.38%
Mosaic®, HBC 369	*	*	*	2,278	2,204	-3.25%
Simcoe®, YCR 14	*	*	969	1,576	1,335	-15.29%
Super Galena <sup>TM</sup>	*	2,201	2,165	2,189	1,872	-14.48%
Zeus	*	3,049	2,891	2,909	2,761	-5.09%
Experimental	*	2,800	1,366	1,269	1,000	-21.20%
Other Varieties <sup>2</sup>	*	1,063	1,354	1,348	1,174	-12.91%
<b>Total Idaho<sup>1</sup></b>	<b>1,745</b>	<b>1,740</b>	<b>1,847</b>	<b>1,794</b>	<b>1,646</b>	<b>-8.25%</b>
<b>OREGON</b>						
Cascade	1,802	1,483	1,402	1,994	1,597	-19.91%
Centennial	1,779	1,585	1,095	1,352	1,235	-8.65%
Chinook	*	*	*	1,861	1,675	-9.99%
Citra®, HBC 394	*	*	*	980	1,047	6.84%
Crystal	*	*	*	2,011	2,216	10.19%
Fuggle	*	827	*	1,066	1,021	-4.22%
Golding	*	1,148	955	837	*	
Liberty	2,519	*	*	1,360	*	
Magnum	2,519	1,406	1,077	1,572	1,493	-5.03%
Mt. Hood	1,737	1,567	1,450	1,276	1,463	14.66%
Nugget	1,897	2,053	1,978	1,888	1,925	1.96%
Perle	*	1,178	1,057	*	*	
Simcoe®, YCR 14	*	*	*	1,678	1,969	17.34%
Sterling	*	1,621	1,423	1,344	1,626	20.98%
Super Galena <sup>TM</sup>	2,763	1,852	2,309	2,340	*	
Tettnanger	1,493	*	*	1,242	1,193	
Willamette	1,663	1,491	1,453	1,226	1,573	28.30%
Experimental	*	1,734	*	*	*	*
Other Varieties <sup>2</sup>	1,253	1,931	1,426	1,609	1,546	-3.92%
<b>Total Oregon</b>	<b>1,885</b>	<b>1,764</b>	<b>1,520</b>	<b>1,613</b>	<b>1,596</b>	<b>-1.05%</b>
<b>WASHINGTON</b>						
Azacca <sup>TM</sup> , ADHA-483	*	*	1,704	1,872	1,870	-0.11%
Ahtanum	1,489	1,647	1,680	1,557	1,012	-35.00%
Apollo <sup>TM</sup>	2,655	2,926	2,649	2,738	2,225	-18.74%
Bravo <sup>TM</sup>	2,647	2,860	2,768	2,824	2,671	-5.42%
Cascade	1,972	1,723	1,824	1,936	1,727	-10.80%
Centennial	1,354	1,554	1,347	1,145	1,355	18.34%
Chinook	1,699	1,987	1,815	1,793	1,420	-20.80%
Citra®, HBC 394	1,342	1,405	1,570	1,541	1,543	0.13%
Cluster	1,965	1,948	1,825	1,705	1,700	-0.29%
Columbus/Tomahawk®	2,452	2,571	2,629	2,524	1,969	-21.99%
Comet	*	*	*	1,780	949	-46.69%
Crystal	1,184	1,286	1,366	1,183	1,475	24.68%
El Dorado®	*	1,761	2,206	2,154	1,904	-11.61%
Galena	1,742	1,969	1,801	1,968	1,692	-14.02%
Glacier	1,461	1,258	1,202	996	1,168	17.27%
Golding	*	1,010	772	854	*	
Jarrylo <sup>TM</sup> , ADHA-881	*	*	1,548	1,541	1,408	-8.63%
Magnum	*	*	*	1,255	*	
Millennium	2,017	2,266	1,996	*	*	
Mosaic®, HBC 369	*	1,709	2,225	2,036	2,326	14.24%
Mt. Hood	1,264	1,161	1,333	1,069	1,075	0.56%
Northern Brewer	1,443	1,256	1,244	991	*	
Nugget	1,679	1,931	1,538	1,927	1,774	-7.94%
Palisade®, YCR-4	2,356	2,790	2,469	1,950	2,228	14.26%
Simcoe®, YCR 14	1,679	1,682	1,542	1,540	1,673	8.64%
Summit <sup>TM</sup>	*	1,873	2,105	1,969	1,648	-16.30%
Super Galena <sup>TM</sup>	2,645	2,816	2,562	2,729	2,501	-8.35%
Tettnanger	1,003	755	*	*	*	
Vanguard	1,280	1,349	1,455	1,223	*	
Warrior®, YCR-5	1,968	2,169	1,821	*	*	
Willamette	1,359	1,240	1,130	1,007	1,277	26.81%
Zeus	2,565	2,940	2,811	2,819	2,469	-12.42%
Experimental	*	1,562	1,625	1,545	1,592	3.04%
Other Varieties <sup>2</sup>	1,993	1,697	1,418	1,603	1,662	3.68%
<b>Total Washington</b>	<b>2,047</b>	<b>2,025</b>	<b>1,936</b>	<b>1,849</b>	<b>1,748</b>	<b>-5.46%</b>
<b>Total Pacific Northwest</b>	<b>2,175</b>	<b>1,985</b>	<b>1,868</b>	<b>1,807</b>	<b>1,713</b>	<b>-5.20%</b>

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

<sup>1</sup> Prior to 2013, only State totals published for Idaho to avoid disclosure of individual operations.

<sup>2</sup> "Other Varieties" includes data to avoid disclosure of individual operations.

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

STATE/PROVINCE & VARIETY	HOP PRODUCTION (POUNDS)					2015-16 % +/-
	2012	2013	2014	2015	2016	
<b>IDAHO</b>						
Apollo™	*	649,000	571,100	589,600	444,900	-24.54%
Bravo™	*	330,500	324,900	435,700	356,200	-18.25%
Calypso	*	*	*	138,500	156,900	13.29%
Cascade	*	768,900	1,433,100	1,257,800	1,248,900	-0.71%
Centennial	*	57,200	55,800	*	*	
Chinook	*	583,400	575,400	662,200	715,500	8.05%
Citra®, HBC 394	*	19,200	109,200	523,700	698,500	33.38%
Crystal	*	*	63,400	*	206,400	
El Dorado®	*	13,600	72,100	230,600	376,300	63.18%
Mosaic®, HBC 369	*	*	*	619,700	1,093,400	76.44%
Simcoe®, YCR 14	*	*	64,900	313,600	309,800	-1.21%
Super Galena™	*	605,400	348,500	201,400	129,200	-35.85%
Zeus	*	1,670,800	1,913,900	1,922,800	1,601,100	-16.73%
Experimental	*	14,000	56,000	91,400	9,000	-90.15%
Other Varieties <sup>2</sup>	*	1,125,900	1,325,500	1,737,900	1,951,600	12.30%
<b>Total Idaho<sup>1</sup></b>	<b>4,778,200</b>	<b>5,837,900</b>	<b>6,913,800</b>	<b>8,724,900</b>	<b>9,297,700</b>	<b>6.57%</b>
<b>OREGON</b>						
Cascade	623,500	627,100	1,347,400	2,163,000	1,934,500	-10.56%
Centennial	370,000	394,600	485,200	853,300	893,200	4.68%
Chinook	*	*	*	240,000	179,200	-25.33%
Citra®, HBC 394	*	*	*	241,000	684,700	184.11%
Crystal	*	*	*	758,100	937,200	23.62%
Fuggle	*	75,300	*	90,600	143,900	58.83%
Golding	*	222,700	223,500	199,300	*	
Liberty	126,700	*	*	285,600	*	
Magnum	146,100	146,200	189,600	312,900	225,500	-27.93%
Mt. Hood	392,600	346,200	390,000	367,600	473,900	28.92%
Nugget	2,978,000	3,422,000	2,696,400	2,802,100	2,810,900	0.31%
Perle	*	64,800	105,700	*	*	
Simcoe®, YCR 14	*	*	*	320,500	649,900	102.78%
Sterling	*	197,800	185,000	280,800	370,800	32.05%
Super Galena™	483,600	377,800	288,600	191,900	*	
Tettnanger	91,100	*	*	165,200	145,600	-11.86%
Willamette	1,504,700	824,700	819,500	810,300	1,310,000	61.67%
Experimental	*	60,700	*	*	*	
Other Varieties <sup>2</sup>	951,300	1,770,600	1,490,100	585,600	1,636,000	179.37%
<b>Total Oregon</b>	<b>7,667,600</b>	<b>8,530,500</b>	<b>8,221,000</b>	<b>10,667,800</b>	<b>12,395,300</b>	<b>16.19%</b>
<b>WASHINGTON</b>						
Azacca™, ADHA-483	*	*	134,600	327,600	946,400	188.89%
Ahtanum	262,000	347,500	326,000	225,800	156,900	-30.51%
Apollo™	2,320,600	2,051,400	1,854,300	1,938,600	1,635,600	-15.63%
Bravo™	1,397,400	1,409,900	1,616,700	1,606,700	1,530,500	-4.74%
Cascade	4,693,000	7,300,000	8,821,000	9,553,300	9,638,800	0.89%
Centennial	2,001,000	2,905,200	3,818,800	4,317,300	5,908,600	36.86%
Chinook	2,064,200	2,812,300	2,354,300	2,331,100	2,008,900	-13.82%
Citra®, HBC 394	721,900	1,820,300	2,622,500	3,597,200	5,035,000	39.97%
Cluster	1,073,000	1,562,000	1,328,600	1,135,700	1,058,800	-6.77%
Columbus/Tomahawk®	5,451,700	6,006,100	4,569,200	4,223,400	2,787,900	-33.99%
Comet	*	*	*	192,200	154,700	-19.51%
Crystal	182,300	275,300	247,200	155,000	281,700	81.74%
El Dorado®	*	144,400	180,900	523,500	754,000	44.03%
Galena	1,662,000	866,300	551,000	580,600	443,300	-23.65%
Glacier	81,800	123,300	151,500	154,400	169,300	9.65%
Golding	*	106,000	72,600	45,300	*	
Jarrylo™, ADHA-881	*	*	116,100	188,000	184,400	-1.91%
Magnum	*	*	*	135,500	*	
Millennium	800,800	951,600	225,600	*	*	
Mosaic®, HBC 369	*	652,800	1,493,200	3,111,600	4,720,400	51.70%
Mt. Hood	151,700	195,000	199,900	139,000	94,600	-31.94%
Northern Brewer	173,100	213,500	163,000	121,900	*	
Nugget	1,468,700	762,800	419,500	389,200	330,000	-15.21%
Palisade®, YCR-4	622,100	368,300	550,600	885,200	1,292,500	46.01%
Simcoe®, YCR 14	1,578,000	2,183,400	2,805,800	4,489,500	6,305,100	40.44%
Summit™	*	5,326,600	5,308,300	3,189,600	2,914,500	-8.62%
Super Galena™	2,536,400	2,171,500	1,552,400	957,800	775,300	-19.05%
Tettnanger	76,200	71,700	*	*	*	
Vanguard	75,500	102,500	84,400	102,700	*	
Willamette	940,400	647,100	672,500	703,100	929,300	32.17%
Warrior®, YCR-5	383,800	390,400	349,700	*	*	
Zeus	7,575,900	9,635,700	9,488,400	8,426,300	6,178,500	-26.68%
Experimental	*	402,900	637,000	488,400	902,700	84.83%
Other Varieties <sup>2</sup>	8,172,100	3,071,900	3,145,500	5,217,800	8,308,900	59.24%
<b>Total Washington</b>	<b>46,465,600</b>	<b>54,877,700</b>	<b>55,861,100</b>	<b>59,453,300</b>	<b>65,446,600</b>	<b>10.08%</b>
<b>Total Pacific Northwest</b>	<b>58,911,400</b>	<b>69,246,100</b>	<b>70,995,900</b>	<b>78,846,000</b>	<b>87,139,600</b>	<b>10.52%</b>
Other States Estimate <sup>3</sup>	*	*	*	1,249,000	1,500,000	20.10%
Canada Estimate <sup>3</sup>	*	*	*	256,500	340,000	32.55%
<b>North America Estimate</b>	<b>58,911,400</b>	<b>69,246,100</b>	<b>70,995,900</b>	<b>80,351,500</b>	<b>88,979,600</b>	<b>10.74%</b>

SOURCE: USDA-NASS. Prepared by HGA. <sup>1</sup> Prior to 2013, only State totals published for Idaho to avoid disclosure of individual operations.

<sup>2</sup> "Other Varieties" includes data to avoid disclosure of individual operations.

<sup>3</sup> Production outside of PNW estimated at 1,000 pounds per acre for acreage identified in June 2016.



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

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
2007	22,745	5,270	2,896	30,911
2008	30,595	6,370	3,933	40,898
2009	28,924	5,764	4,030	39,726
2010	24,336	4,622	2,331	31,289
2011	23,320	4,202	2,265	29,787
2012	22,696	4,391	2,596	29,683
2013	27,097	4,835	3,356	35,288
2014	28,858	5,410	3,743	38,011
2015	32,158	6,612	4,863	43,633
2016	37,444	7,765	5,648	50,857

SOURCE: USDA-NASS. Prepared by HGA.

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

YEAR	POUNDS PER ACRE			
	WASHINGTON	OREGON	IDAHO	TOTAL
2007	2,049	1,811	1,417	1,949
2008	2,072	1,569	1,841	1,971
2009	2,533	1,948	1,943	2,383
2010	2,147	1,791	2,129	2,093
2011	2,200	1,908	2,408	2,175
2012	2,047	1,746	1,841	1,985
2013	2,025	1,764	1,740	1,962
2014	1,936	1,520	1,847	1,868
2015	1,849	1,613	1,794	1,807
2016	1,748	1,596	1,646	1,713

SOURCE: USDA-NASS. Prepared by HGA.

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

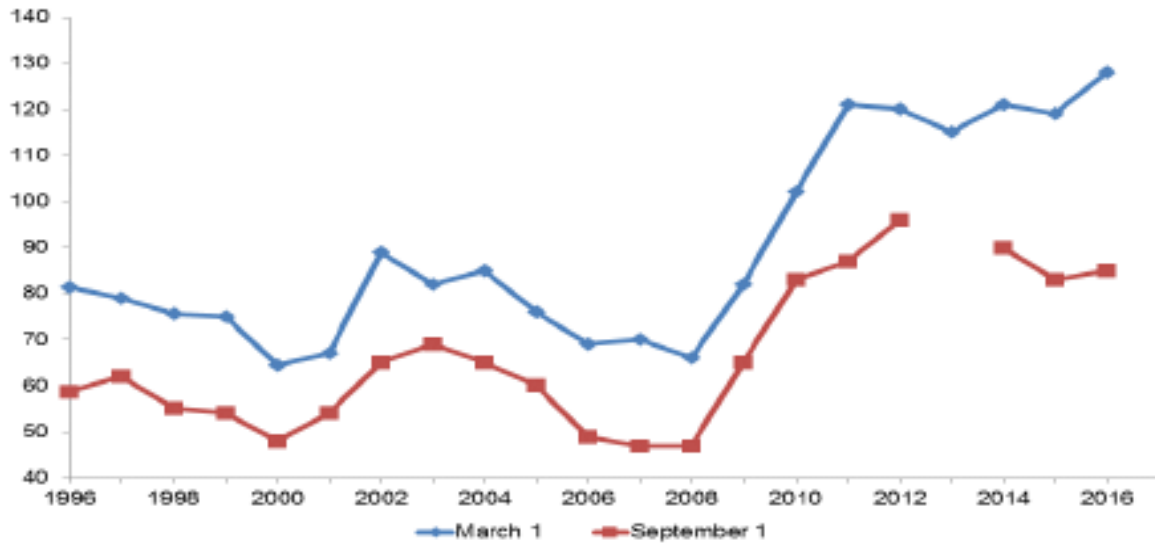
Marketing Year	SEASON AVERAGE PRICE				U.S.	Total Crop
	Washington	Oregon	Idaho	U.S.	Production	Value
	----- (\$ / pound) -----				(Lbs. x 1,000)	(x 1,000)
2007	\$2.94	\$3.31	\$2.77	\$2.99	60,253	\$179,978
2008	\$4.08	\$3.75	\$4.00	\$4.03	80,630	\$325,092
2009	\$3.54	\$3.63	\$3.75	\$3.57	94,678	\$337,874
2010	\$3.11	\$3.96	\$3.89	\$3.28	65,493	\$214,589
2011	\$3.06	\$3.79	\$2.93	\$3.14	64,782	\$203,378
2012	\$3.10	\$3.91	\$2.69	\$3.17	58,911	\$186,876
2013	\$3.37	\$3.76	\$2.62	\$3.35	69,246	\$232,308
2014	\$3.73	\$4.07	\$2.72	\$3.67	70,995	\$260,627
2015	\$4.71	\$3.24	\$3.53	\$4.38	78,846	\$345,388
2016	\$5.84	\$5.25	\$5.50	\$5.72	87,140	\$498,420

SOURCE: USDA-NASS. Prepared by HGA.

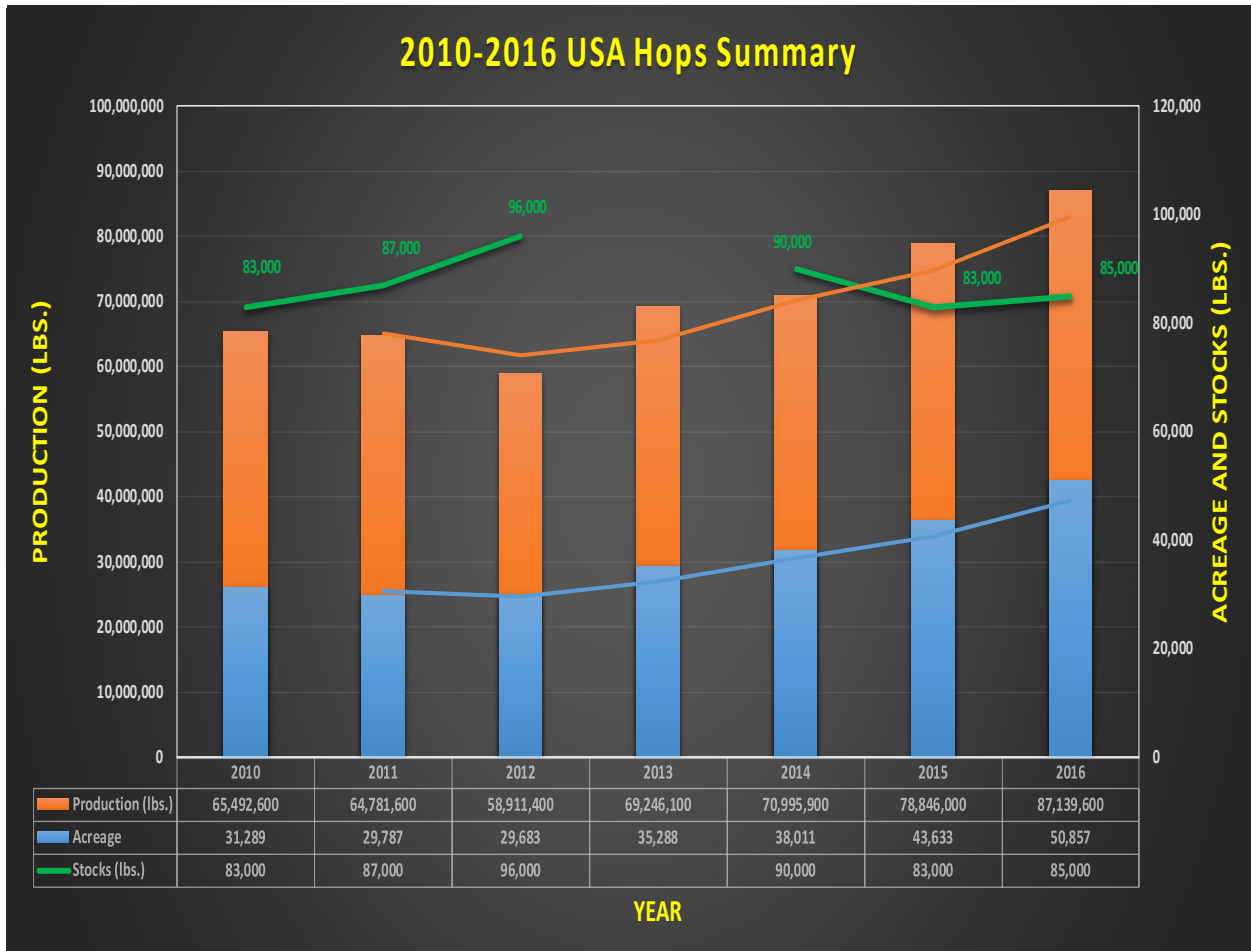
U.S. HOPS STOCKS (20 YEAR and 7 YEAR LOOK)

Hop Stocks – United States

Million pounds



SOURCE: USDA-NASS.



SOURCE: USDA-NASS. Prepared by NASS.

**2016 HOP INSPECTION REPORT**

YEAR	WASHINGTON	OREGON	IDAHO	TOTAL
2012	236,025	39,233	19,312	294,570
2013	266,356	35,388	28,412	330,156
2014	271,891	38,592	34,137	344,620
2015	284,461	47,202	42,301	373,964
2016	329,539	59,641	47,123	436,303

TABLE 2. Number of Bales in Each Leaf &amp; Stem Category – 2016

	0%	1%	2%	3%	4%	5%	6%	7%	TOTAL	AVERAGE
WA	237,520	74,116	10,842	2,698	399	267	0	0	325,842	0.42%
OR	46,134	9,675	3,025	498	309	0	0	0	59,641	0.31%
ID	39,028	7,601	262	100	60	72	0	0	47,123	0.19%
Total	322,682	91,392	14,129	3,296	768	339	0	0	432,606	0.31%
% of Total	75%	21%	3%	1%	0%	0%	0%	0%	100%	

TABLE 3. Number of Bales in Each Seed Category – 2016

	0%	1%	2%	3%	4%	5%	6%	7+%	TOTAL	AVERAGE
WA	152,241	84,061	44,210	22,772	11,550	5,431	1,703	3,936	325,904	1.08%
OR	15,274	7,405	5,092	5,407	4,941	5,121	4,773	11,566	59,579	3.17%
ID	36,204	5,232	1,323	1,294	1,399	1,097	240	334	47,123	0.56%
Total	203,719	96,698	50,625	29,473	17,890	11,649	6,716	15,836	432,606	1.31%
% of Total	68%	19%	6%	3%	1%	1%	1%	1%	100%	

SOURCE: State Hop Inspection Labs. Prepared by HGA.

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

Year	WASHINGTON Leaf & Stem	OREGON Leaf & Stem	IDAHO Leaf & Stem	U.S. AVERAGE %	
				Leaf & Stem	Seed Content
2007	0.18	0.20	0.23	0.19	0.83
2008	0.34	0.22	0.03	0.31	1.85
2009	0.12	0.25	0.15	0.14	0.82
2010	0.17	0.15	0.04	0.16	1.31
2011	0.14	0.09	0.02	0.12	1.34
2012	0.33	0.16	0.05	0.29	0.66
2013	0.28	0.34	0.23	0.28	0.68
2014	0.32	0.18	0.09/1.11	0.30	0.64
2015	0.42	0.51	0.32	0.42	0.78
2016	0.33	0.31	0.19	0.31	1.31

SOURCE: State Hop Inspection Labs. Prepared by HGA.

**IHGC AROMA ACREAGE (FIVE YEARS)**

COUNTRY	AROMA ACREAGE (IN ACRES)					2015-16 % +/-
	2012	2013	2014	2015	2016	
Australia	128	158	158	217	247	13.64%
Austria	477	462	460	462	462	0.00%
Belgium	175	173	190	205	220	7.23%
China	853	494	741	618	494	-20.00%
Czech Rep.	10,413	10,045	9,902	10,253	10,826	5.59%
France	922	741	808	899	941	4.67%
Germany	22,489	21,733	22,732	23,908	24,867	4.01%
New Zealand	655	712	712	811	877	8.23%
Poland	988	1,132	1,253	1,391	1,530	9.95%
Romania	151	151	156	156	168	7.94%
Russia	208	208	208	208	208	0.00%
Serbia	84	84	84	84	84	0.00%
Slovakia	529	430	339	339	339	0.00%
Slovenia	2,634	2,535	2,728	2,973	3,242	9.06%
South Africa	0	0	0	0	0	0.00%
Spain	0	0	0	0	0	0.00%
Ukraine	853	932	764	764	764	0.00%
UK - England	1,965	1,965	1,740	1,690	1,693	0.15%
USA	15,558	19,996	24,711	33,738	43,000	27.45%
<b>IHGC Total</b>	<b>59,082</b>	<b>61,950</b>	<b>67,683</b>	<b>78,714</b>	<b>89,960</b>	<b>14.29%</b>

SOURCE: IHGC Economic Commission November report. US hop acreage estimates are based on USDA-NASS August Pre-Harvest Estimates report. Numbers may not total exactly due to rounding and standard/metric conversions.

**IHGC ALPHA ACREAGE (FIVE YEARS)**

COUNTRY	ALPHA ACREAGE (IN ACRES)					2015-16 % +/-
	2012	2013	2014	2015	2016	
Australia	988	951	850	988	1,100	11.25%
Austria	94	106	143	143	143	0.00%
Belgium	215	217	175	161	148	-7.69%
China	9,108	6,919	5,807	5,066	4,448	-12.20%
Czech Rep.	151	133	116	106	114	6.98%
France	163	146	131	121	82	-32.65%
Germany	18,397	17,162	17,051	17,345	17,925	3.35%
New Zealand	247	222	203	148	141	-5.00%
Poland	2,471	2,093	1,972	1,940	2,039	5.10%
Romania	445	445	450	462	474	2.67%
Russia	133	133	133	133	133	0.00%
Serbia	82	82	82	82	82	0.00%
Slovakia	0	0	0	0	0	0.00%
Slovenia	91	86	89	62	57	-8.00%
South Africa	1,216	1,216	1,038	1,038	1,038	0.00%
Spain	1,260	1,194	1,285	1,320	1,325	0.37%
Ukraine	208	203	148	148	148	0.00%
UK - England	633	633	551	519	519	0.00%
USA	15,249	15,227	13,299	11,500	9,981	-13.21%
<b>IHGC Total</b>	<b>51,152</b>	<b>47,168</b>	<b>43,523</b>	<b>41,282</b>	<b>39,896</b>	<b>-3.36%</b>

SOURCE: IHGC Economic Commission November report. Prepared by HGA. US hop acreage estimates are based on USDA-NASS August Pre-Harvest Estimates report. Numbers may not total exactly due to rounding and standard/metric conversions.

**IHGC TOTAL ACREAGE (FIVE YEARS)**

COUNTRY	TOTAL ACREAGE (IN ACRES)					2015-16
	2012	2013	2014	2015	2016	% +/-
Australia	1,117	1,110	1,008	1,206	1,488	23.39%
Austria	571	568	603	605	618	2.08%
Belgium	390	390	366	366	385	5.27%
China	9,961	7,413	6,548	5,684	4,942	-13.05%
Czech Rep.	10,564	10,178	10,018	10,359	11,800	13.91%
France	1,085	887	939	1,021	1,134	11.11%
Germany	40,887	38,895	39,782	41,253	45,802	11.03%
New Zealand	902	934	914	959	1,018	6.18%
Poland	3,460	3,225	3,225	3,329	3,791	13.89%
Romania	596	596	605	618	667	7.97%
Russia	341	341	341	341	390	14.37%
Serbia	166	166	166	166	195	17.78%
Slovakia	529	430	339	339	339	0.14%
Slovenia	2,726	2,622	2,817	3,035	3,667	20.84%
South Africa	1,216	1,216	1,038	1,038	1,038	0.00%
Spain	1,260	1,194	1,285	1,320	1,339	1.47%
Ukraine	1,060	1,134	912	912	912	0.00%
UK - England	2,597	2,597	2,291	2,209	2,224	0.67%
USA	30,807	35,223	38,010	45,238	52,980	17.11%
<b>IHGC Total</b>	<b>110,233</b>	<b>109,119</b>	<b>111,207</b>	<b>119,994</b>	<b>134,729</b>	<b>12.28%</b>

SOURCE: IHGC Economic Commission November report. Excludes new acreage (not harvested). Numbers may not total exactly due to rounding and standard/metric conversions. US hop acreage estimates are based on USDA-NASS August Pre-Harvest Estimates report.

**IHGC HOP ACREAGE AND PRODUCTION 2016**

COUNTRY	HOP ACREAGE (acres)				HOP PRODUCTION (pounds)			
	AROMA	ALPHA	NEW	TOTAL	AROMA	ALPHA	TOTAL	Alpha MT.
Australia	247	1,100	141	1,488	451,943	1,984,140	2,436,083	130
Austria	462	143	12	618	806,884	251,324	1,058,208	38
Belgium	220	148	17	385	244,711	216,051	460,761	17
China	494	4,448	0	4,942	661,380	9,259,320	9,920,700	300
Czech Rep.	10,826	114	860	11,800	15,454,246	198,414	15,652,660	305
France	941	82	111	1,134	1,543,220	158,731	1,701,951	27
Germany	24,867	17,925	3,010	45,802	48,942,120	45,194,300	94,136,420	4,650
New Zealand	877	141	0	1,018	1,496,923	253,529	1,750,452	75
Poland	1,530	2,039	222	3,791	2,184,759	3,452,404	5,637,162	225
Romania	168	474	25	667	121,253	268,961	390,214	18
Russia	208	133	49	390	202,823	154,322	357,145	9
Serbia	84	82	30	195	127,867	167,550	295,416	11
Slovakia	339	0	0	339	332,895	0	332,895	8
Slovenia	3,242	57	368	3,667	5,291,040	167,550	5,458,590	135
South Africa	0	1,038	0	1,038	0	1,807,772	1,807,772	108
Spain	0	1,325	15	1,339	0	2,072,324	2,072,324	108
Ukraine	764	148	0	912	881,840	176,368	1,058,208	30
UK - England	1,693	519	12	2,224	2,204,600	992,070	3,196,670	100
USA	43,000	9,981	0	52,980	66,283,504	22,332,598	88,616,102	4,097
<b>IHGC Total</b>	<b>89,960</b>	<b>39,896</b>	<b>4,873</b>	<b>134,729</b>	<b>147,232,006</b>	<b>89,107,727</b>	<b>236,339,734</b>	<b>10,391</b>

SOURCE: IHGC Economic Commission November 2016 report. US hop acreage estimates are based on August 2016 USDA-NASS Pre-Harvest Estimate report. 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.

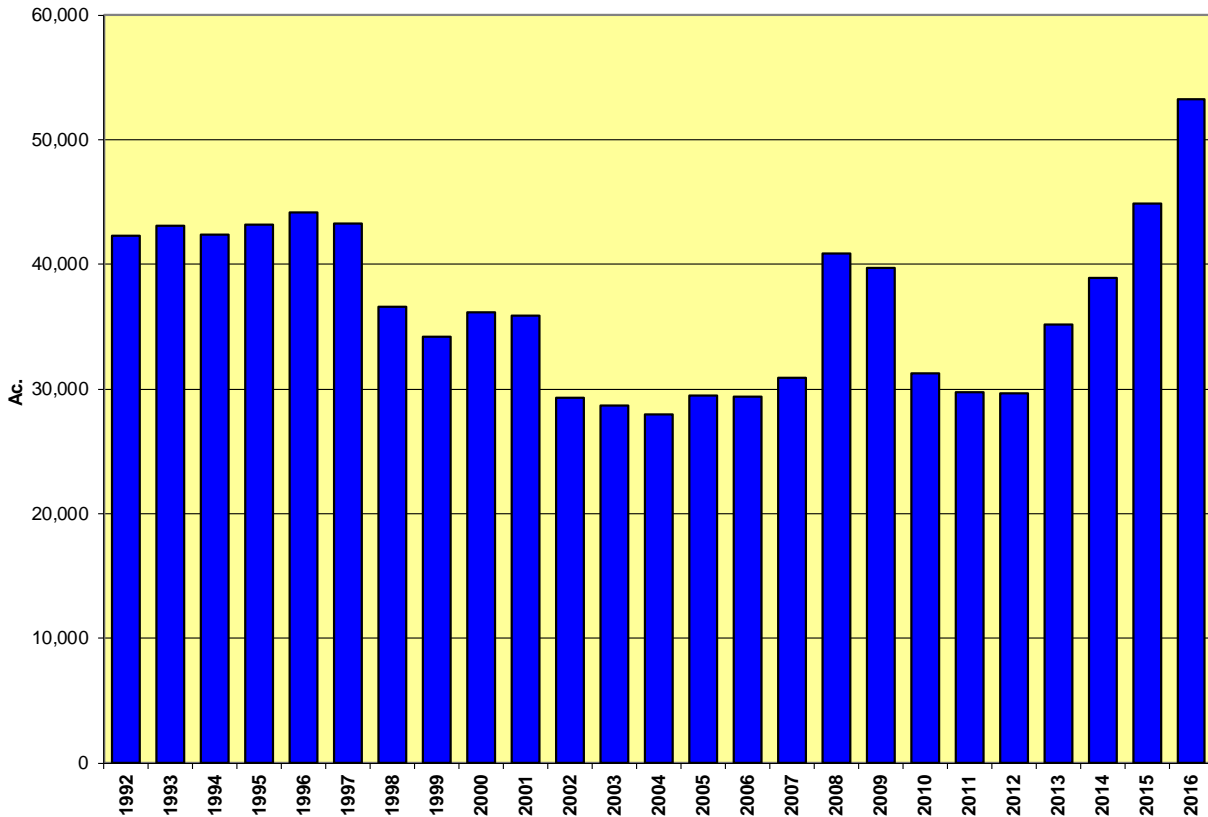
**U.S. & GERMAN ALPHA ACID PRODUCTION (10 YEARS)**

YEAR	UNITED STATES				GERMANY			
	Pounds of Hops (x 1,000)	MT Hops	MT Alpha	Avg. Alpha %*	Pounds of Hops (x 1,000)	MT Hops	MT Alpha	Avg. Alpha %*
2007	58,988	26,757	3,280	12.3%	70,854	32,139	2,880	9.0%
2008	80,630	36,574	4,150	11.3%	70,854	32,139	4,100	12.8%
2009	91,491	41,500	4,690	11.3%	87,104	39,510	3,520	8.9%
2010	64,954	29,463	3,517	11.9%	75,177	34,100	3,600	10.6%
2011	64,992	29,480	4,308	14.6%	82,673	37,500	4,400	11.7%
2012	61,249	27,782	3,500	12.6%	76,059	34,500	3,850	11.2%
2013	69,246	31,410	3,680	11.7%	60,746	27,554	2,680	9.7%
2014	70,996	32,204	3,541	11.0%	74,956	38,500	4,104	10.7%
2015	80,351	36,447	3,856	10.6%	62,170	28,200	2,700	9.6%
2016	88,616	40,196	4,097	10.2%	94,136	42,700	4,650	10.9%

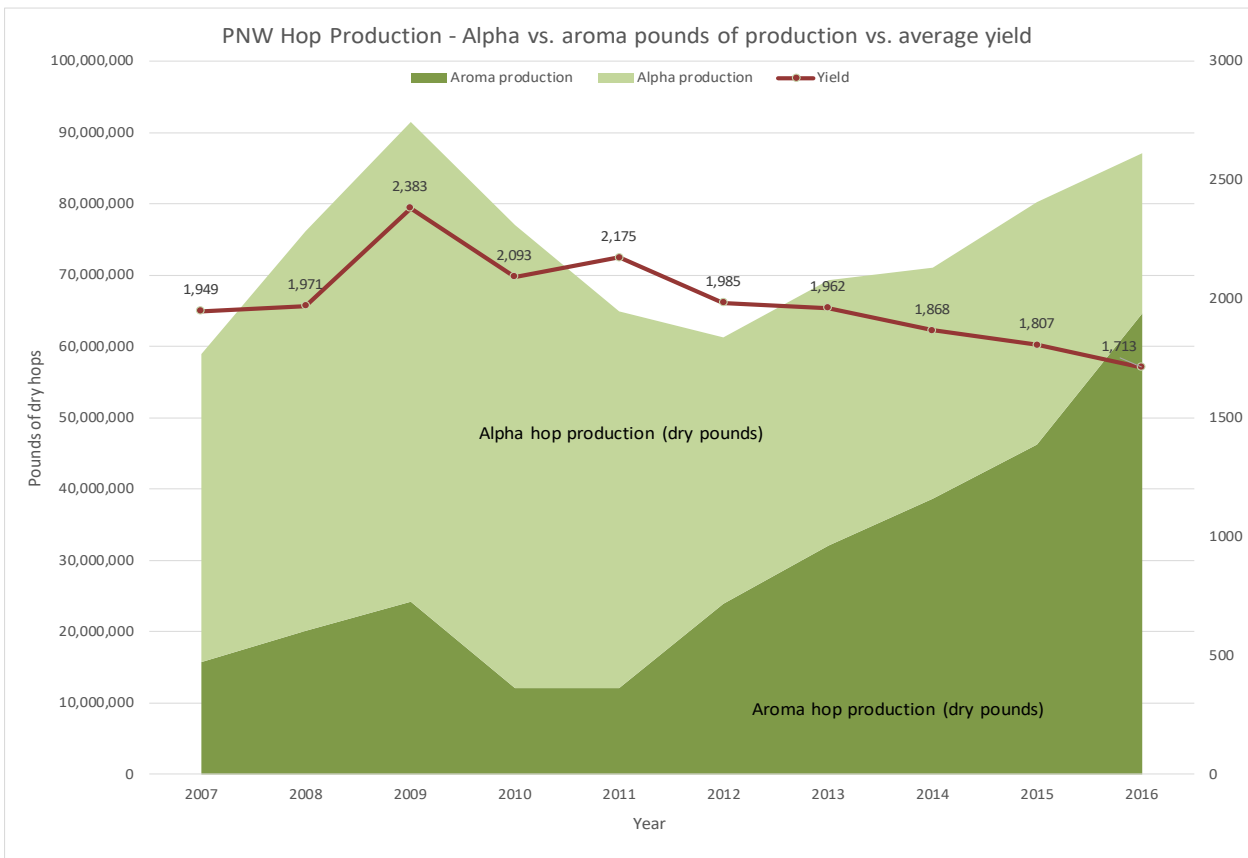
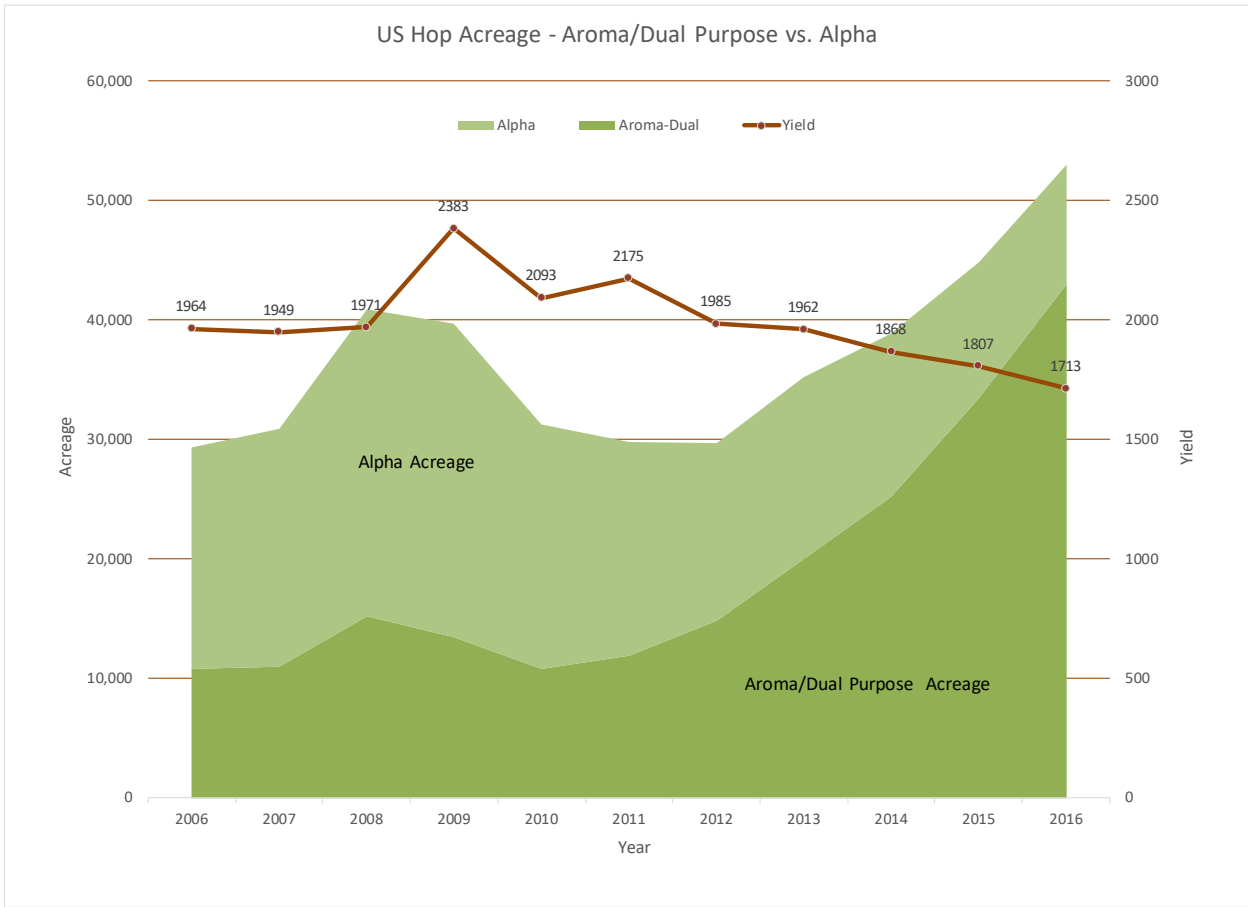
SOURCE: Estimates from IHGC 2016 November Economic Commission report. Prepared by HGA.

\*Figures presented in the chart are the result of dividing the estimated MT Alpha by MT Hops for each year. This does not represent an estimate based on any type of analytical procedure.

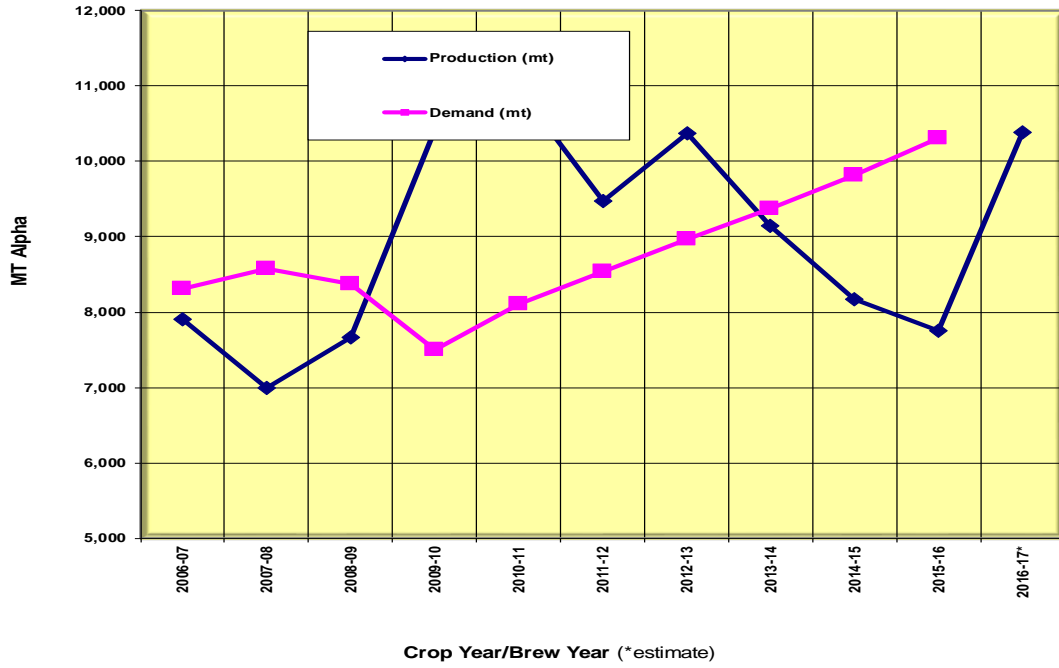
**US HOP ACREAGE (1992-2016)**



SOURCE: USDA-NASS and HGA Hop Acreage Reports

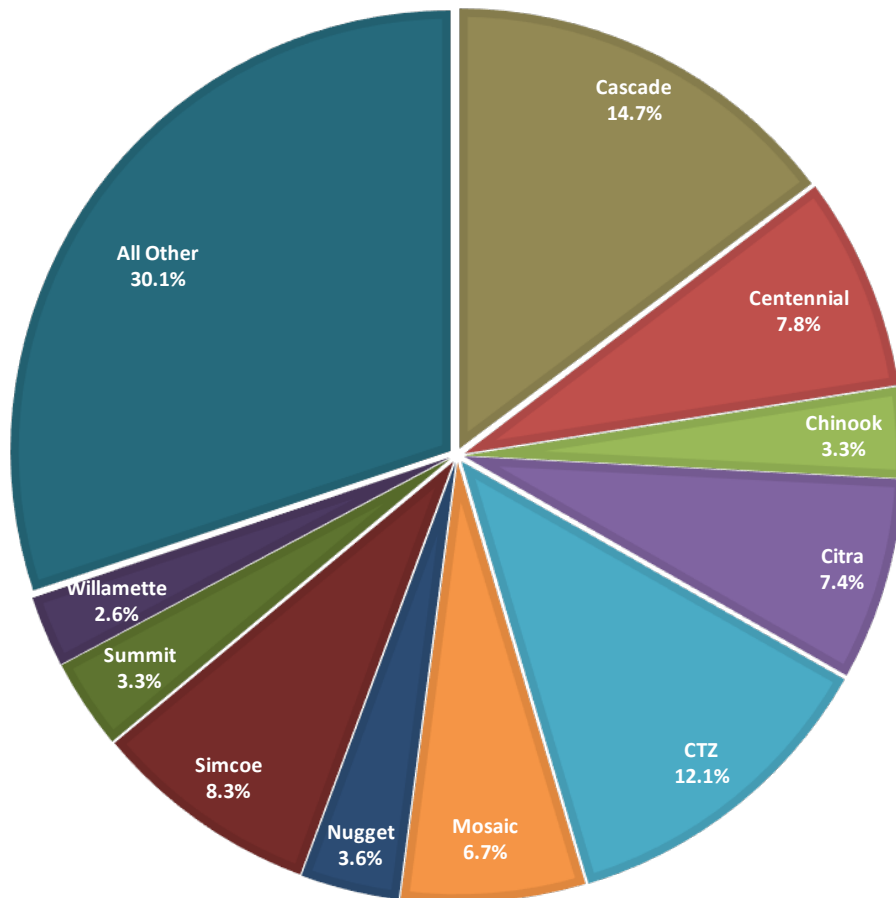


**WORLD ALPHA PRODUCTION & DEMAND**



SOURCE: Barth Report. 2015-16. Prepared by HGA.

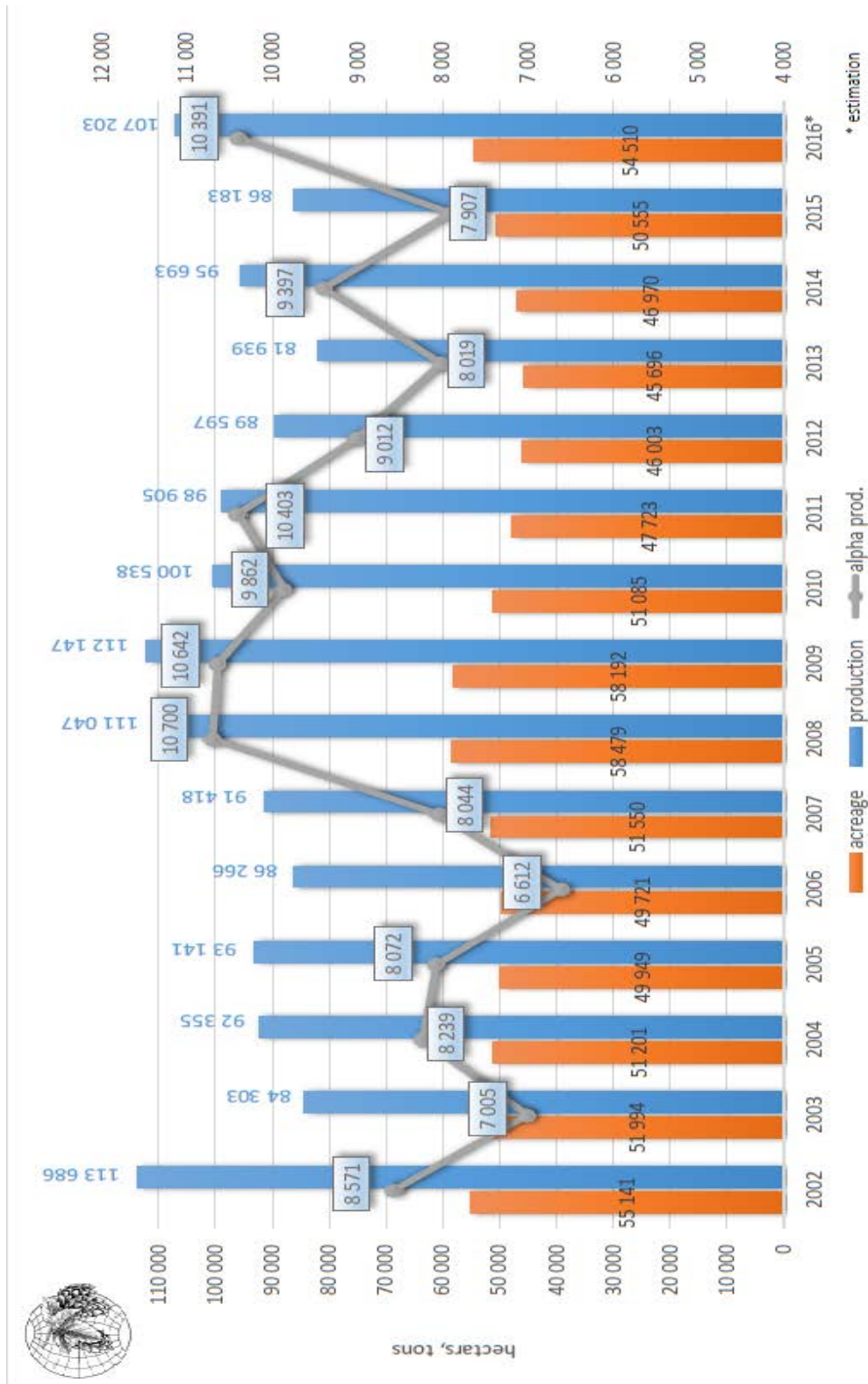
**MAJOR US HOP VARIETIES – 2016 (% of US Production)**



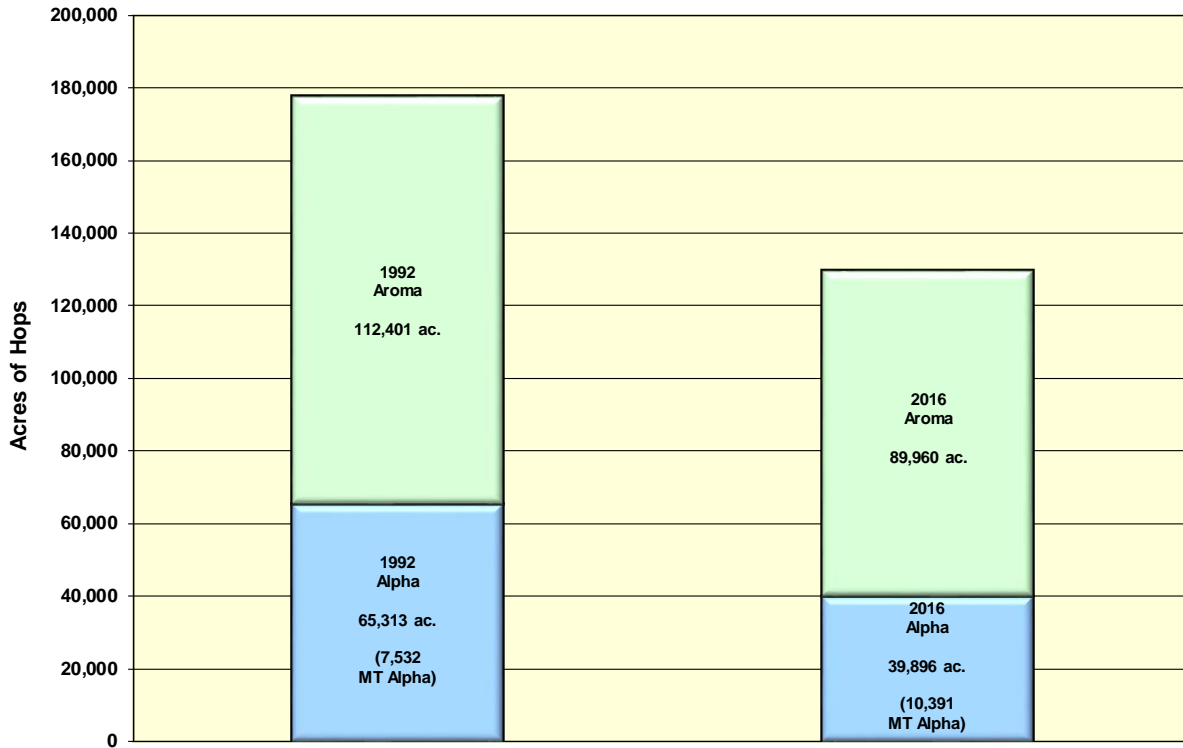
SOURCE: USDA-NASS. Prepared by HGA.



COMPARISON OF IHGC CROPS 2002-2016

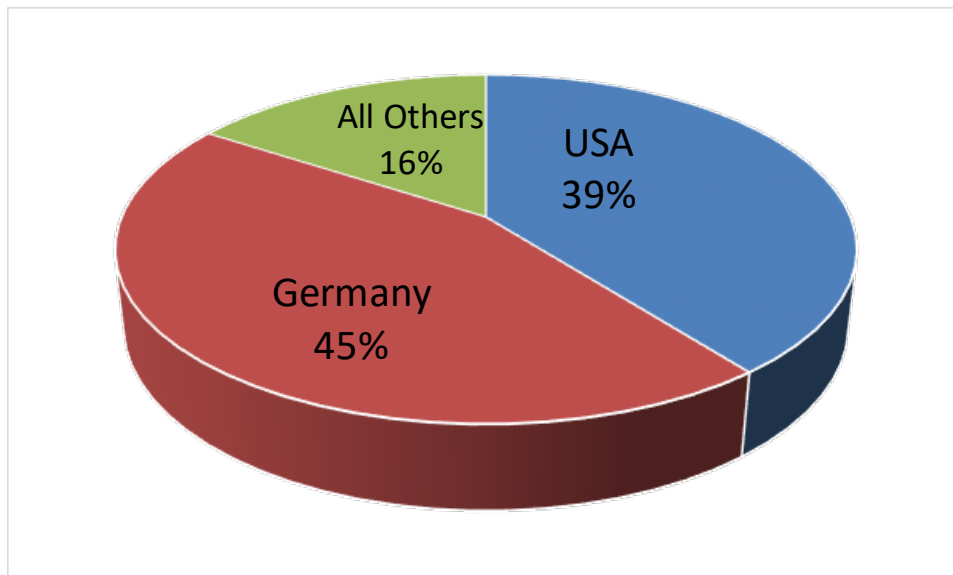


**COMPOSITION OF WORLD HOP ACREAGE - 1992 VERSUS 2016**



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

**WORLD'S LARGEST ALPHA PRODUCERS - 2016**



SOURCE: IHGC November Report. Prepared by HGA.

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

COUNTRY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Germany	41,376	43,269	43,902	44,749	43,818	40,887	38,895	39,782	41,253	45,958
	34%	33%	33%	36%	38%	37%	35%	34%	34%	34%
UK-England	2,619	2,718	2,669	2,669	2,750	2,597	2,597	2,291	2,209	2,212
	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Czech Rep.	12,832	12,664	12,479	12,398	10,952	10,564	10,178	10,018	10,359	11,800
	11%	10%	9%	10%	10%	10%	9%	9%	9%	9%
Europe (rest)	17,313	17,236	16,222	16,186	13,178	11,842	11,897	14,881	11,711	13,015
	14%	13%	12%	13%	12%	11%	11%	13%	10%	10%
USA	30,911	39,263	40,126	31,247	28,787	29,683	35,288	38,892	45,238	52,980
	25%	29%	30%	25%	25%	27%	32%	34%	38%	39%
China	13,912	14,322	14,322	14,322	11,016	9,961	7,413	6,548	5,684	4,942
	11%	11%	11%	11%	10%	9%	7%	6%	5%	4%
World (rest)	3,047	3,633	3,991	3,941	3,620	3,575	3,650	3,508	3,544	3,793
	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%
World Totals	122,010	133,105	133,711	125,512	114,121	109,109	109,918	115,920	119,994	134,700

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

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

SOURCE: IHGC Economic Commission November 2016 report. US figures estimated prior to publication of USDA-NASS National Hop Report. Prepared by HGA.

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

COUNTRY	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Germany	70,854	87,104	68,894	75,177	82,673	76,059	60,746	84,657	62,170	94,136
	35%	36%	28%	34%	38%	39%	34%	41%	33%	40%
England	3,108	2,976	3,197	3,197	3,351	3,217	2,723	2,205	2,866	3,197
	2%	1%	1%	1%	2%	2%	2%	1%	2%	1%
Czech	12,414	14,771	14,109	16,204	13,779	9,480	11,750	13,007	10,582	15,653
	6%	6%	6%	7%	6%	5%	7%	6%	6%	7%
Europe (rest)	20,891	23,115	22,780	21,398	17,077	14,777	14,202	17,791	14,874	18,466
	10%	9%	9%	10%	8%	7%	8%	9%	8%	8%
USA	58,989	76,235	91,491	64,954	64,992	61,316	69,343	70,997	80,203	88,616
	29%	31%	38%	29%	30%	31%	39%	34%	42%	37%
China	29,762	35,494	35,494	35,494	29,982	26,334	13,228	13,228	13,228	9,921
	15%	14%	15%	16%	14%	13%	7%	6%	7%	4%
World (rest)	5,489	5,324	6,927	7,068	5,939	6,309	6,446	6,231	6,444	6,351
	3%	2%	3%	3%	3%	3%	4%	3%	3%	3%
World Totals	201,507	245,019	242,892	223,492	217,793	197,492	178,438	208,116	190,367	236,340

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

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

SOURCE: IHGC Economic Commission November 2016 report. US figures estimated prior to publication of USDA-NASS National Hop Report. Prepared by HGA.

**U.S. HOP EXPORTS, TOP 40 COUNTRIES (2011/21 through 2015/16)***(In pounds; extract is converted to fresh hop equivalent at a ratio of 4:1)*

2015/16 Rank	Country	2011/12 (Sep-Aug)	2012/13 (Sep-Aug)	2013/14 (Sep-Aug)	2014/15 (Sep-Aug)	2015/16 (Sep-Aug)
1	United Kingdom	6,799,717	7,172,078	8,261,823	7,837,874	10,685,144
2	Mexico	5,096,867	9,036,307	6,605,269	10,188,001	8,038,715
3	Germany	5,560,940	5,130,157	2,918,700	3,868,010	5,226,058
4	Belgium-Luxembourg	5,503,179	4,627,723	4,897,348	4,125,290	3,709,498
5	Brazil	4,755,591	4,056,505	3,976,037	3,579,425	3,568,843
6	China	2,223,803	2,862,702	3,603,455	4,116,692	3,458,171
7	Canada	1,950,430	1,788,390	2,434,785	2,685,451	3,186,120
8	South Korea	1,253,989	1,173,961	1,644,869	1,460,121	2,089,982
9	Colombia	2,243,424	2,223,362	2,520,986	1,776,044	1,972,696
10	Japan	1,626,130	1,815,948	1,603,642	2,133,193	1,970,492
11	Australia	1,342,174	1,070,344	1,055,573	1,014,567	1,349,009
12	Hong Kong	1,441,823	1,046,755	1,297,200	951,295	1,200,637
13	Dominican Republic	762,138	766,547	890,006	574,084	925,060
14	Venezuela	1,224,888	2,886,292	1,950,650	1,486,797	923,957
15	Peru	1,075,635	949,751	711,432	949,972	900,368
16	Vietnam	553,581	385,368	377,431	513,457	840,843
17	Russia	488,544	416,012	445,554	365,085	742,958
18	Argentina	1,091,950	985,907	886,479	983,262	727,525
19	Philippines	679,244	600,760	363,101	652,127	679,685
20	South Africa	506,843	427,035	369,495	591,721	591,721
21	Guatemala	316,804	287,262	166,229	242,729	441,586
22	Chile	614,428	741,855	459,443	368,392	419,760
23	Ireland	369,495	349,433	17,857	184,086	402,564
24	Ecuador	442,688	398,596	523,377	424,831	337,969
25	Indonesia	166,669	213,407	198,416	116,845	295,860
26	Cambodia	70,548	129,191	86,201	129,852	211,644
27	India	158,953	395,950	219,801	173,504	199,959
28	New Zealand	83,555	74,516	50,486	323,418	194,007
29	Netherlands	366,188	102,294	294,317	142,639	142,860
30	Costa Rica	165,126	153,442	27,999	24,912	139,773
31	Paraguay	44,974	107,586	4,630	33,510	120,593
32	Honduras	61,289	146,166	67,902	78,044	114,861
33	Thailand	428,799	168,433	466,057	550,935	110,011
34	Malaysia	114,640	135,805	110,231	101,413	108,467
35	Panama	188,495	71,209	161,158	111,554	102,294
36	Turkey	90,830	38,581	37,920	113,759	100,090
37	Uruguay	83,776	24,692	63,714	42,549	92,153
38	El Salvador	98,106	77,823	73,414	75,619	89,508
39	Singapore	113,318	88,626	55,997	130,514	75,839
40	Bolivia	80,248	153,221	162,040	154,103	68,343
	All Other Countries	1,765,682	1,105,618	1,597,910	1,507,080	711,432
	<b>Grand Total</b>	<b>52,005,501</b>	<b>54,385,612</b>	<b>51,658,934</b>	<b>54,882,754</b>	<b>57,267,054</b>

Source: USDA Foreign Agricultural Service - Global Agricultural Trade System, <http://www.fas.usda.gov/gats/default.aspx>.  
 Prepared by Bryant Christie Inc.

## U.S. HOP EXPORTS BY PRODUCT (TOP 40) – 2015/16

2015/16 Rank	Country	Extract (Converted to Raw Hop Equivalent)	Fresh/Dried	Ground	Pellets	Grand Total
1	United Kingdom	5,855,477	2,475,791	2,425	2,351,450	10,685,144
2	Mexico	7,573,319	0	55,336	410,060	8,038,715
3	Germany	3,284,888	173,504	0	1,767,666	5,226,058
4	Belgium-Luxembourg	1,405,667	263,452	0	2,040,378	3,709,498
5	Brazil	1,272,508	0	3,748	2,292,587	3,568,843
6	China	3,064,425	0	5,291	388,454	3,458,171
7	Canada	427,697	168,213	705,700	1,884,511	3,186,120
8	Korea, South	1,982,397	0	5,952	101,633	2,089,982
9	Colombia	918,005			1,054,691	1,972,696
10	Japan	628,758	18,078	0	1,323,655	1,970,492
11	Australia	641,104	54,234		653,671	1,349,009
12	Hong Kong	876,558	441	0	323,639	1,200,637
13	Dominican Republic	915,359		0	9,700	925,060
14	Venezuela	918,005		0	5,952	923,957
15	Peru	413,587	134,702		352,078	900,368
16	Vietnam	815,710		0	25,133	840,843
17	Russia	464,734			278,223	742,958
18	Argentina	328,048	0		399,478	727,525
19	Philippines	311,293	0	0	368,392	679,685
20	South Africa	557,329	0	0	34,392	591,721
21	Guatemala	414,469	0	0	27,117	441,586
22	Chile	175,488	441	0	243,831	419,760
23	Ireland	325,402	5,071		72,091	402,564
24	Ecuador	262,791		0	75,178	337,969
25	Indonesia	255,736	0		40,124	295,860
26	Cambodia	211,644			0	211,644
27	India	95,240			104,720	199,959
28	New Zealand	117,286	25,133	0	51,588	194,007
29	Netherlands	40,565	2,205	0	100,090	142,860
30	Costa Rica	132,277	882	3,968	2,646	139,773
31	Paraguay	85,539	0		35,053	120,593
32	Honduras	110,231			4,630	114,861
33	Thailand	91,712	0	0	18,298	110,011
34	Malaysia	108,467	0		0	108,467
35	Panama	85,539	0	0	16,755	102,294
36	Turkey	88,185	0	0	11,905	100,090
37	Uruguay	45,856		661	45,636	92,153
38	El Salvador	73,193	2,425	1,323	12,566	89,508
39	Singapore	66,139		0	9,700	75,839
40	Bolivia	40,565			27,778	68,343
	All Other Countries	417,115	17,417	10,141	266,759	711,432
	<b>Grand Total</b>	<b>35,898,310</b>	<b>3,341,988</b>	<b>794,546</b>	<b>17,232,211</b>	<b>57,267,054</b>

Source: USDA Foreign Agricultural Service - Global Agricultural Trade System, <http://www.fas.usda.gov/gats/default.aspx>.  
Prepared by Bryant Christie Inc.

**U.S. IMPORTS OF HOPS (FIVE YEARS)***(In pounds; extract converted at 4:1 ratio)*

2015/16 Rank	Country	2011/12	2012/13	2013/14	2014/15	2015/16
1	Germany	4,483,541	5,402,868	4,773,890	5,743,483	7,192,360
2	United Kingdom	1,008,174	1,328,065	1,150,152	2,366,001	2,131,429
3	Australia	720,250	634,490	1,105,839	1,058,660	1,453,949
4	New Zealand	668,221	333,780	933,878	807,333	676,599
5	Czech Republic	136,246	283,735	223,549	318,127	179,456
6	Slovenia	95,019	113,097	171,520	178,354	173,724
7	Belgium-Luxembourg	0	0	882	6,834	57,541
8	France	45,636	23,810	132,057	140,875	49,163
9	South Africa	0	882	3,527	2,205	24,912
10	China	0	544,983	829,820	229,942	14,991
11	Italy	8,818	2,205	26,015	47,620	13,228
12	Canada	78,925	14,991	0	2,425	11,244
13	Poland	12,346	11,684	7,496	5,952	7,937
14	Latvia	0	0	0	0	6,614
15	Ethiopia	4,409	2,205	0	441	4,630
16	Argentina	1,102	1,764	0	3,748	0
17	India	0	0	0	2,866	0
18	Peru	0	0	3,086	0	0
19	Slovakia	0	0	0	31,747	0
20	Spain	0	0	20,283	4,409	0
21	Switzerland	0	4,409	0	0	0
	<b>Grand Total</b>	<b>7,262,688</b>	<b>8,702,968</b>	<b>9,381,992</b>	<b>10,951,021</b>	<b>11,997,776</b>

Source: USDA Foreign Agricultural Service - Global Agricultural Trade System, <http://www.fas.usda.gov/gats/default.aspx>.  
Prepared by Bryant Christie Inc.

**WORLD BEER PRODUCTION BY BREWERY (TOP 10) – 2011-12 (MILLION HL)**

Brewery	2014 Production	2014 % Share	2015 Production	2015 % Share
ABInBev	411.5	21.0%	409.9	21.2%
SABMiller	187.8	9.6%	191.3	9.9%
Heineken	181.3	9.3%	188.3	9.7%
Carlsberg	122.8	6.3%	120.3	6.2%
China Res. Snow Breweries	118.4	6.0%	117.4	6.1%
Tsingtao Brewery Group	76.2	3.9%	70.5	3.6%
Molson-Coors	59.0	3.0%	58.1	3.0%
Yanjing	53.1	2.7%	48.3	2.5%
Kirin	46.6	2.4%	43.1	2.2%
BGI/Groupe Castel	31.7	1.6%	29.8	1.5%
<b>Top 10 total</b>	<b>1,288.4</b>	<b>65.8%</b>	<b>1,277.0</b>	<b>65.9%</b>

The top 3 brewing groups control 40.8% of the market share, up from 39.9% in 2014.

The top 40 brewing groups worldwide represented 82.8% market share in 2014, increasing to 83.5% in 2015.

Source: Barth Report 2015-16

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

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016*</b>
Germany	94.6	94.4	95.6	95.7	96.0
Russia	97.2	88.9	76.6	73.0	75.3
Great Britain	42.0	42.4	41.2	44.1	44.3
Poland	37.8	39.6	39.2	39.8	39.9
Spain	33.0	33.1	33.5	34.8	36.2
Netherlands	24.3	23.7	23.7	23.7	23.9
France	18.9	18.7	18.8	20.5	21.5
Czech Republic	18.3	18.6	19.7	20.1	20.1
Ukraine	30.0	27.6	24.5	19.4	18.6
Belgium	18.5	18.1	18.0	18.3	18.6
Romania	17.9	16.6	16.5	16.1	15.9
Italy	12.7	12.7	13.0	15.4	15.6
Austria	8.9	9.2	9.2	9.3	9.4
Turkey	10.0	8.0	10.1	9.0	9.0
Ireland	8.3	8.0	8.0	7.3	8.0
Hungary	5.0	6.0	6.2	6.5	6.6
Other Europe	49.7	36.2	23.9	21.7	27.9
<b>Total Europe</b>	<b>544.6</b>	<b>531.1</b>	<b>518.8</b>	<b>516.6</b>	<b>522.8</b>
USA	230.1	224.6	225.9	225.0	225.0
Brazil	132.0	134.2	134.5	138.0	131.1
Mexico	81.5	82.0	82.0	90.0	95.0
Colombia	22.3	22.3	22.0	22.7	23.0
Canada	19.5	22.6	22.6	22.7	22.7
Venezuela	21.7	22.2	22.4	21.0	19.0
Argentina	16.8	16.8	16.3	18.1	18.0
Other Americas	63.6	66.2	68.1	86.4	83.3
<b>Total Americas</b>	<b>569.6</b>	<b>572.2</b>	<b>574.1</b>	<b>592.4</b>	<b>589.3</b>
P.R. China	490.0	506.0	493.0	471.6	451.3
Japan	55.3	57.2	53.9	53.8	53.8
Vietnam	29.7	32.0	35.4	39.3	36.5
Thailand	23.9	21.0	22.4	25.5	26.5
South Korea	19.0	19.4	20.8	18.8	19.0
India	19.2	20.0	20.0	20.5	20.7
Philippines	15.8	16.2	17.0	17.2	17.3
Other Asia	135.8	158.7	151.9	143.5	125.4
<b>Total Asia</b>	<b>685.8</b>	<b>708.7</b>	<b>701.9</b>	<b>693.5</b>	<b>675.4</b>
South Africa	31.3	31.5	31.5	32.1	32.4
Nigeria	23.5	25.0	27.0	27.0	27.1
Other Africa	77.9	86.4	99.6	102.6	106.1
<b>Total Africa</b>	<b>119.4</b>	<b>127.9</b>	<b>141.1</b>	<b>144.1</b>	<b>147.6</b>
Australia	17.2	17.3	16.9	16.2	16.4
New Zealand	3.2	2.9	2.8	2.8	2.9
Oceania	1.2	1.5	1.4	1.4	1.4
<b>Total Australia</b>	<b>21.6</b>	<b>21.7</b>	<b>21.1</b>	<b>20.4</b>	<b>20.7</b>
<b>WORLD TOTALS</b>	<b>1,941.0</b>	<b>1,961.5</b>	<b>1,957.0</b>	<b>1,967.1</b>	<b>1,955.7</b>

Source: S.S. Steiner 2016 Guidelines for Hop Buying