

2020
GUIDELINES
FOR HOP BUYING



*Estimate

International Conversion Table

1 metr. ton (mt) → 1,000 kg → 2,204.6 lbs.
 100 lbs. → 45.359 kg

1 hectare (ha) → 2.471 acres
 1 acre → 0.405 hectare (ha)

1 hectolitre (hl) → 100 litres (Ltr.) → 0.8523 bbl. [USA] → 0.6114 bbl. [Brit.]
 1 bbl. [USA] → 117.34 litres (Ltr.) → 1.1734 hectolitres (hl)
 1 bbl. [Brit.] → 163.65 litres (Ltr.) → 1.6365 hectolitres (hl)

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Simon H. Steiner, Hopfen, GmbH, Mainburg, Germany

Foreword

” 2020 will be remembered as the strangest and perhaps most difficult year in memory. The global pandemic has resulted in changes that were previously either unthinkable or at the least very unlikely.

As a result, this year's edition of our annual Guidelines for Hop Buying presents more questions than we can answer with firm numbers. When will beer production return to „normal?“ What is „normal“ given the rise of craft, the rise of hard seltzer and the extra fickle millennial generation consumer?! Are we being too pessimistic during a difficult time or are we simply being cautious?

Besides the pandemic and its chaotic effects on the economy and society, this year is a normal-to-below average hop crop, variety dependent. Perhaps it is a good thing that some varieties came in less than expected, but there are always knock-on effects when projections are not met.

We will do our best to continue to analyze the market and stay in continued contact with you during these challenging times. As always, we greatly appreciate the loyalty of the global beer industry.

Your Hopsteiner Team

November 2020

“



- *Hallertauer Hopfenveredelungsgesellschaft mbH Au, Hallertau, Germany, Pellet Plant*
- *Hallertauer Hopfenveredelungsgesellschaft mbH Mainburg, Hallertau, Germany, Ethanol- and CO₂-Extraction*
- *Hops Extract Corporation of America Yakima, Washington, CO₂-Extraction*
- *Golden Gate Hop Ranches Inc. Yakima, Washington, USA, Hop Farming*

Hop Acreage 2017 – 2020

	Acreage in ha				+/- %		
	2017	2018	2019	2020	17/18	18/19	19/20
Hallertauer	539	503	506	501	- 6.7	+ 0.6	- 1.0
Hersbrucker	910	918	911	898	+ 0.9	- 0.8	- 1.4
Perle	2,653	2,681	2,778	2,887	+ 1.1	+ 3.6	+ 3.9
Spalter Select	437	468	489	491	+ 7.1	+ 4.5	+ 0.4
Tradition	2,592	2,580	2,637	2,718	- 0.5	+ 2.2	+ 3.1
Saphir	416	435	410	369	+ 4.6	- 5.7	- 10.0
Northern Brewer	162	156	145	133	- 3.7	- 7.1	- 8.3
Magnum	1,387	1,364	1,320	1,290	- 1.7	- 3.2	- 2.3
Nugget	119	116	111	117	- 2.5	- 4.3	+ 5.4
Taurus	270	244	213	196	- 9.6	- 12.7	- 8.0
Herkules	5,406	5,897	6,122	6,254	+ 9.1	+ 3.8	+ 2.2
Rest	1,419	1,418	1,353	1,379	- 0.1	- 4.6	+ 1.9
Hallertau	16,310	16,780	16,995	17,233	+ 2.9	+ 1.3	+ 1.4
Elbe-Saale	1,466	1,541	1,547	1,564	+ 5.1	+ 0.4	+ 1.1
Tettngang	1,353	1,397	1,438	1,479	+ 3.3	+ 2.9	+ 2.9
Spalt	391	404	415	408	+ 3.3	+ 2.7	- 1.7
Rest	22	22	22	22	+ 0.0	+ 0.0	+ 0.0
Germany total	19,543	20,144	20,417	20,706	+ 3.1	+ 1.4	+ 1.4
Austria	250	250	252	253	+ 0.0	+ 0.8	+ 0.4
Belgium	180	183	182	182	+ 1.7	- 0.5	+ 0.0
Bulgaria	22	37	37	33	+ 68.2	+ 0.0	- 10.8
Czech Rep.	4,945	5,020	5,003	4,970	+ 1.5	- 0.3	- 0.7
England	967	948	958	905	- 2.0	+ 1.1	- 5.5
France	481	496	498	505	+ 3.1	+ 0.4	+ 1.4
Poland	1,577	1,662	1,762	1,868	+ 5.4	+ 6.0	+ 6.0
Romania	270	277	260	263	+ 2.6	- 6.1	+ 1.2
Russia	470	252	254	254	- 46.4	+ 0.8	+ 0.0
Slovakia	138	137	133	38	- 0.7	- 2.9	- 71.4
Slovenia	1,590	1,667	1,596	1,480	+ 4.8	- 4.3	- 7.3
Spain	537	536	532	556	- 0.2	- 0.7	+ 4.5
Turkey	350	350	350	350	+ 0.0	+ 0.0	+ 0.0
Ukraine	369	369	472	472	+ 0.0	+ 27.9	+ 0.0
Rest	183	111	106	107	- 39.3	- 4.5	+ 0.9
Europe total	31,872	32,438	32,812	32,942	+ 1.8	+ 1.2	+ 0.4
Amarillo	1,201	1,106	959	855	- 7.9	- 13.3	- 10.8
Apollo	369	416	344	310	+ 12.7	- 17.3	- 9.9
Bravo	257	149	96	81	- 42.0	- 35.6	- 15.6
Cascade	2,811	2,499	2,212	1,617	- 11.1	- 11.5	- 26.9
Centennial	2,132	1,850	1,475	1,166	- 13.2	- 20.3	- 20.9
Chinook	981	1,143	946	775	+ 16.5	- 17.2	- 18.1
Citra	2,072	2,692	3,518	4,533	+ 29.9	+ 30.7	+ 28.9
Col. / Tom. / Zeus	1,977	2,477	2,645	2,545	+ 25.3	+ 6.8	- 3.8
Eureka!	147	220	247	282	+ 50.2	+ 12.2	+ 14.2
Mosaic	1,098	1,120	1,662	2,250	+ 2.0	+ 48.4	+ 35.4
Super Galena	203	270	223	228	+ 32.9	- 17.4	+ 2.2
Willamette	620	522	429	393	- 15.8	- 17.8	- 8.4
Rest	7,697	7,807	8,126	8,911	+ 1.4	+ 4.1	+ 9.7
PNW total	21,564	22,271	22,882	23,946	+ 3.3	+ 2.7	+ 4.6
Other	1,011	931	960	950	- 7.9	+ 3.1	- 1.0
USA total	22,575	23,202	23,842	24,896	+ 2.8	+ 2.8	+ 4.4
Argentina	160	160	160	164	+ 0.0	+ 0.0	+ 2.5
Australia	631	652	700	743	+ 3.3	+ 7.4	+ 6.1
Japan	120	120	120	106	+ 0.0	+ 0.0	- 11.7
New Zealand	442	531	700	743	+ 20.1	+ 31.8	+ 6.1
P.R.China	2,415	2,302	2,300	2,350	- 4.7	- 0.1	+ 2.2
South Africa	424	427	427	427	+ 0.7	+ 0.0	+ 0.0
Rest	479	479	479	479	+ 0.0	+ 0.0	+ 0.0
World total	59,118	60,311	61,540	62,850	+ 2.0	+ 2.0	+ 2.1

Hop Acreage 2007 – 2020

(ha and % share)

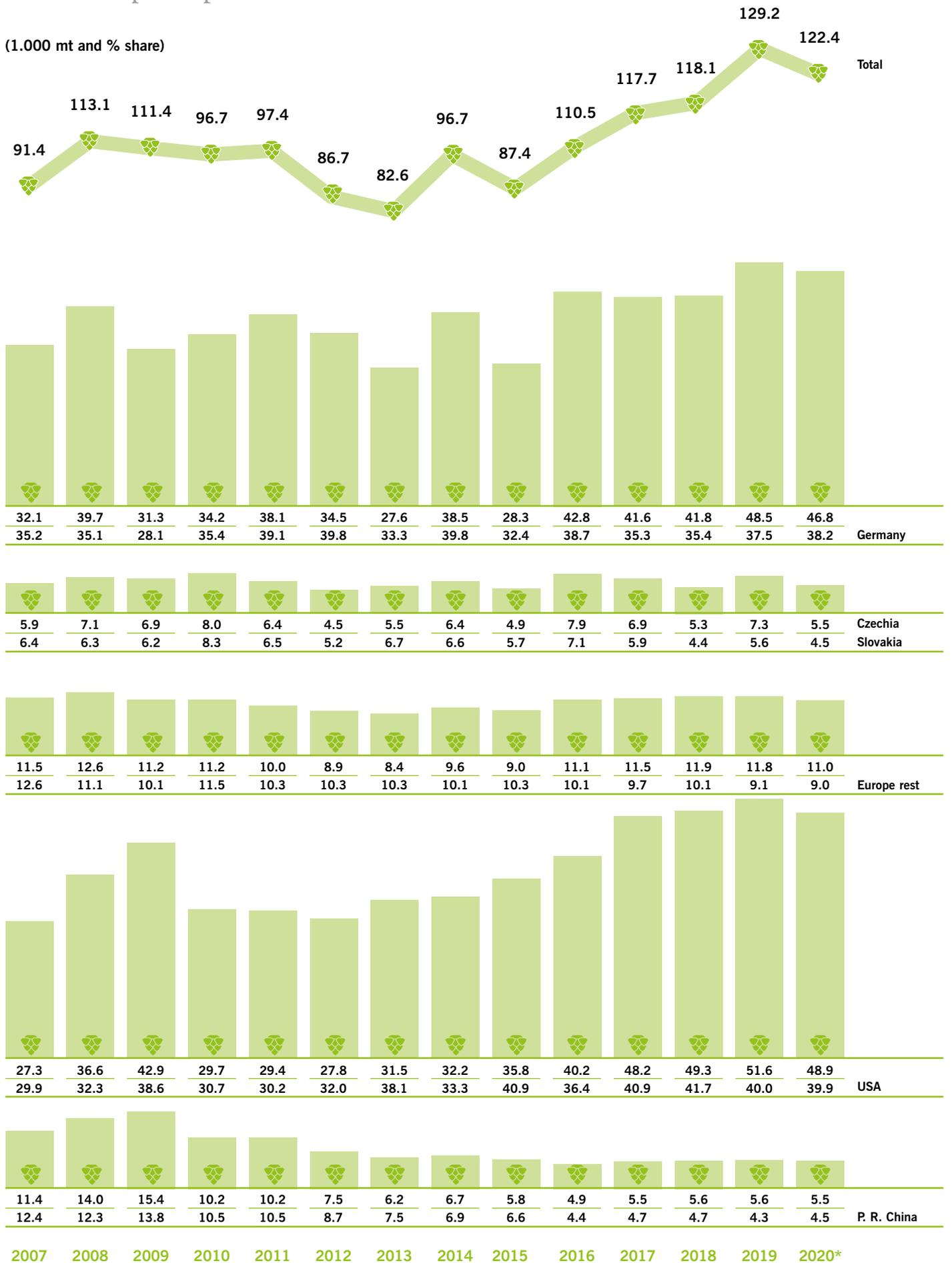


Crop Quantities and Average Yields 2017 – 2020

	Crop Quantities in mt				+/- %			Ø Yields in mt / ha			
	2017	2018	2019	2020*	17/18	18/19	19/20*	2017	2018	2019	2020*
Hallertauer	730.3	456.2	763.9	754.0	- 37.5	+ 67.4	- 1.3	1.35	0.91	1.51	1.50
Hersbrucker	1,806.2	1,914.6	1,796.4	1,660.0	+ 6.0	- 6.2	- 7.6	1.98	2.09	1.97	1.85
Perle	5,184.2	4,954.8	5,882.4	5,470.0	- 4.4	+ 18.7	- 7.0	1.95	1.85	2.12	1.89
Spalter Select	901.4	882.7	971.7	970.0	- 2.1	+ 10.1	- 0.2	2.06	1.89	1.99	1.98
Tradition	5,009.9	5,132.0	5,117.8	5,130.0	+ 2.4	- 0.3	+ 0.2	1.93	1.99	1.94	1.89
Saphir	798.3	829.6	868.6	775.0	+ 3.9	+ 4.7	- 10.8	1.92	1.91	2.12	2.10
Northern Brewer	235.8	203.7	265.4	240.0	- 13.6	+ 30.3	- 9.6	1.46	1.31	1.83	1.80
Magnum	3,186.6	2,100.2	3,169.5	2,720.0	- 34.1	+ 50.9	- 14.2	2.30	1.54	2.40	2.11
Nugget	327.8	277.2	323.3	301.0	- 15.4	+ 16.6	- 6.9	2.75	2.39	2.91	2.57
Taurus	548.0	498.0	441.1	385.0	- 9.1	- 11.4	- 12.7	2.03	2.04	2.07	1.96
Herkules	14,243.6	16,282.5	18,579.6	18,745.0	+ 14.3	+ 14.1	+ 0.9	2.63	2.76	3.03	3.00
Others	2,568.3	3,023.4	3,304.5	3,000.0	+ 17.7	+ 9.3	- 9.2	1.81	2.13	2.44	2.18
Hallertau	35,540.2	36,554.8	41,484.2	40,150.0	+ 2.9	+ 13.5	- 3.2	2.18	2.18	2.44	2.33
Elbe-Saale	2,938.8	2,488.5	3,326.8	3,000.0	- 15.3	+ 33.7	- 9.8	2.00	1.61	2.15	1.92
Tettngang	2,270.4	2,075.1	2,909.8	2,844.6	- 8.6	+ 40.2	- 2.2	1.68	1.49	2.02	1.92
Spalt	762.2	631.3	706.9	720.0	- 17.2	+ 12.0	+ 1.9	1.95	1.56	1.70	1.76
Rest	44.7	44.6	44.6	45.2	- 0.2	+ 0.0	+ 1.3	2.03	2.03	2.03	2.05
Germany total	41,556.3	41,794.3	48,472.3	46,759.8	+ 0.6	+ 16.0	- 3.5	2.13	2.07	2.37	2.26
Austria	439.0	450.0	455.0	492.0	+ 2.5	+ 1.1	+ 8.1	1.76	1.80	1.81	1.94
Belgium	236.0	282.0	296.0	250.0	+ 19.5	+ 5.0	- 15.5	1.31	1.54	1.63	1.37
Bulgaria	62.0	53.5	51.9	62.5	- 13.7	- 3.0	+ 20.4	2.82	1.45	1.40	1.89
Czech Rep.	6,797.0	5,126.4	7,145.0	5,455.0	- 24.6	+ 39.4	- 23.7	1.37	1.02	1.43	1.10
England	1,780.0	1,377.0	1,430.0	1,072.0	- 22.6	+ 3.8	- 25.0	1.84	1.45	1.49	1.18
France	763.0	864.0	822.0	750.0	+ 13.2	- 4.9	- 8.8	1.59	1.74	1.65	1.49
Poland	2,993.0	3,208.0	3,765.5	3,565.0	+ 7.2	+ 17.4	- 5.3	1.90	1.93	2.14	1.91
Romania	205.0	215.0	195.0	205.0	+ 4.9	- 9.3	+ 5.1	0.76	0.78	0.75	0.78
Russia	500.0	330.0	350.0	350.0	- 34.0	+ 6.1	+ 0.0	1.06	1.31	1.38	1.38
Slovakia	104.0	127.0	110.0	26.0	+ 22.1	- 13.4	- 76.4	0.75	0.93	0.83	0.68
Slovenia	2,736.0	3,078.0	2,600.0	2,400.0	+ 12.5	- 15.5	- 7.7	1.72	1.85	1.63	1.62
Spain	550.0	900.0	840.0	870.0	+ 63.6	- 6.7	+ 3.6	1.02	1.68	1.58	1.56
Turkey	390.0	390.0	390.0	390.0	+ 0.0	+ 0.0	+ 0.0	1.11	1.11	1.11	1.11
Ukraine	560.0	480.0	480.0	492.0	- 14.3	+ 0.0	+ 2.5	1.52	1.30	1.02	1.04
Rest	261.5	257.0	139.0	143.5	- 1.7	- 45.9	+ 3.2	1.43	2.32	1.31	1.34
Europe total	59,932.8	58,932.2	67,541.7	63,282.8	- 1.7	+ 14.6	- 6.3	1.88	1.82	2.06	1.92
Amarillo	2,218.0	2,357.0	2,029.0	1,655.6	+ 6.3	- 13.9	- 18.4	1.85	2.13	2.12	1.94
Apollo	1,032.6	1,232.3	1,055.7	948.6	+ 19.3	- 14.3	- 10.1	2.80	2.96	3.07	3.06
Bravo	844.6	501.6	344.3	244.8	- 40.6	- 31.4	- 28.9	3.29	3.37	3.59	3.02
Cascade	6,179.8	5,257.1	4,588.6	2,846.3	- 14.9	- 12.7	- 38.0	2.20	2.10	2.07	1.76
Centennial	3,959.1	2,801.8	2,964.8	1,837.1	- 29.2	+ 5.8	- 38.0	1.86	1.51	2.01	1.58
Chinook	1,919.7	2,390.0	2,145.2	1,597.9	+ 24.5	- 10.2	- 25.5	1.96	2.09	2.27	2.06
Citra	4,029.0	4,593.0	5,684.8	7,375.0	+ 14.0	+ 23.8	+ 29.7	1.94	1.71	1.62	1.63
Col./Tom./Zeus	6,356.1	7,244.6	7,916.9	7,268.8	+ 14.0	+ 9.3	- 8.2	3.22	2.92	2.99	2.86
Eureka!	368.5	686.7	802.8	674.3	+ 86.4	+ 16.9	- 16.0	2.52	3.12	3.25	2.39
Mosaic	2,949.0	2,596.0	3,928.1	5,000.6	- 12.0	+ 51.3	+ 27.3	2.69	2.32	2.36	2.22
Super Galena	586.0	889.9	707.2	754.2	+ 51.9	- 20.5	+ 6.6	2.89	3.30	3.17	3.31
Willamette	972.3	846.5	808.3	690.3	- 12.9	- 4.5	- 14.6	1.57	1.62	1.88	1.76
Rest	15,925.0	17,095.6	17,845.4	17,522.3	+ 7.4	+ 4.4	- 1.8	2.07	2.19	2.20	1.97
PNW total	47,339.7	48,492.1	50,821.1	48,415.8	+ 2.2	+ 4.8	- 4.7	2.20	2.18	2.22	2.02
Others	850.5	790.0	815.0	453.6	- 7.1	+ 3.2	- 44.3	0.84	0.85	0.85	0.48
USA total	48,190.2	49,282.1	51,636.1	48,869.4	+ 2.3	+ 4.8	- 5.4	2.13	2.12	2.17	1.96
Argentina	215.0	280.0	160.0	160.0	+ 30.2	- 42.9	+ 0.0	1.34	1.75	1.00	0.98
Australia	1,438.0	1,582.0	1,645.0	1,714.0	+ 10.0	+ 4.0	+ 4.2	2.28	2.43	2.35	2.31
Japan	273.0	202.0	202.0	202.0	- 26.0	+ 0.0	+ 0.0	2.28	1.68	1.68	1.91
New Zealand	760.0	794.0	1,019.0	1,250.0	+ 4.5	+ 28.3	+ 22.7	1.72	1.50	1.46	1.68
P.R.China	5,530.0	5,610.0	5,560.0	5,510.0	+ 1.4	- 0.9	- 0.9	2.29	2.44	2.42	2.34
South Africa	710.0	754.0	727.0	706.0	+ 6.2	- 3.6	- 2.9	1.67	1.77	1.70	1.65
Rest	669.0	669.0	669.0	669.0	+ 0.0	+ 0.0	+ 0.0	1.40	1.40	1.40	1.40
World total	117,718.0	118,105.3	129,159.8	122,363.2	+ 0.3	+ 9.4	- 5.3	1.99	1.96	2.10	1.95

World Hop Crop 2007 – 2020

(1.000 mt and % share)



*Estimate

Hopsteiner Laboratory Values 2017 – 2020

Alpha Content in %					Alpha Content in %				
Aroma Varieties	2017	2018	2019	2020	Bitter Varieties	2017	2018	2019	2020
Hersbrucker	2.3	2.0	2.5	3.3	Herkules	15.5	14.6	16.2	16.6
Perle	6.9	5.5	6.7	7.4	Magnum	12.6	11.6	12.3	14.2
Tradition	5.7	5.0	5.4	6.3	Taurus	15.9	13.6	16.1	15.5
Select	4.6	3.5	4.4	5.2	US Super Galena	15.3	15.0	14.8	15.0
Tettnang	3.6	3.0	3.8	4.3	US Bravo	15.5	14.8	15.1	14.5
Spalt	3.2	3.5	3.9	4.7	US Nugget	13.4	13.7	13.3	13.6
Saaz	3.0	2.9	3.4	3.6	US Eureka!	18.6	19.0	18.3	18.2
Steirer Aurora	7.3	8.9	7.8	11.4	US CTZ	15.8	15.0	14.5	14.9
Steirer Golding (Celeia)	2.8	3.0	3.4	4.1	Pride of Ringwood	9.8	9.6	9.4	9.5
US Cascade	7.0	6.0	6.2	6.4					
US Willamette	5.1	4.5	5.0	4.9	Dual Purpose	2017	2018	2019	2020
Northern Brewer	7.8	7.4	8.1	9.1	US Centennial	11.0	10.0	10.3	10.3
					Sultana	14.9	14.8	14.5	14.7

Worldwide use of Hops and Hop Products 2007 – 2020

	Hops total		Pellets total		Extract total	
	(mt)		(mt)	(% total)	(mt)	(% total)
2007	91,418		59,513	65.1	29,345	32.1
2008	113,125		69,119	61.1	40,951	36.2
2009	111,386		65,161	58.5	43,997	39.5
2010	96,680		55,108	57.0	39,639	41.0
2011	97,376		54,531	56.0	41,482	42.6
2012	86,696		47,683	55.0	37,886	43.7
2013	82,631		50,653	61.3	31,069	37.6
2014	96,670		63,319	65.5	30,934	32.0
2015	85,911		63,160	73.5	22,189	25.8
2016	110,496		84,972	76.9	23,757	21.5
2017	117,718		88,312	75.0	28,017	23.8
2018	118,105		81,053	68.6	35,573	30.1
2019	129,160		86,279	66.8	41,331	32.0
2020*	122,363		81,127	66.3	39,768	32.5

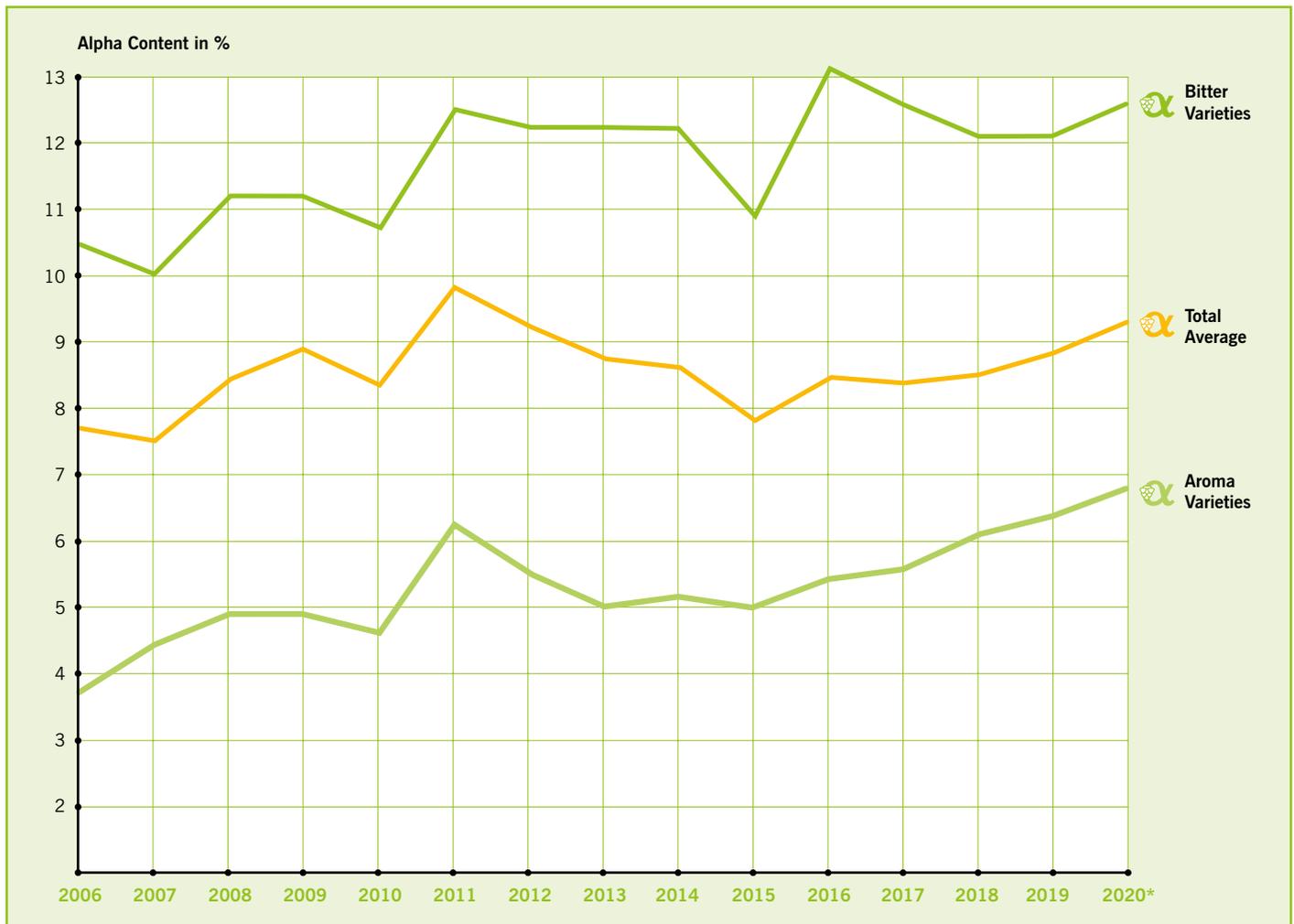
*Estimate

World Alpha Acids Production 2017 – 2020

Total Crop Quantities in mt					% share				
	2017	2018	2019	2020*	2017	2018	2019	2020*	
Aroma Varieties	72,305	69,928	74,384	71,216	61.4	59.2	57.6	58.2	
Bitter Varieties	45,413	48,177	55,776	51,147	38.6	40.8	43.2	41.8	
Total	117,718	118,105	129,160	122,363	100.0	100.0	100.0	100.0	

Alpha Amount in kg					Alpha Content in %				
	2017	2018	2019	2020*	2017	2018	2019	2020*	
Aroma Varieties	4,117,300	4,285,600	4,610,200	4,851,700	5.7	6.1	6.2	6.8	
Bitter Varieties	5,783,500	5,837,800	6,705,800	6,517,500	12.7	12.1	12.2	12.7	
Total	9,900,800	10,123,400	11,316,000	11,369,200	8.4	8.6	8.8	9.3	

Alpha Values over time 2006– 2020



*Estimate

World Beer Production 2017 – 2020

	Beer Production in Mio hl				+/- %		
	2017	2018	2019	2020*	17/18	18/19	19/20*
Germany	93.0	93.5	91.6	90.5	+ 0.5	- 2.0	- 1.2
Russia	74.5	70.0	73.0	74.0	- 6.0	+ 4.3	+ 1.4
England	40.5	40.9	41.0	37.0	+ 1.0	+ 0.2	- 9.8
Poland	37.2	38.1	39.9	34.6	+ 2.4	+ 4.7	- 13.3
Spain	43.3	43.0	39.5	25.0	- 0.7	- 8.1	- 36.7
Netherlands	20.3	20.8	21.0	20.5	+ 2.5	+ 1.0	- 2.4
France	24.8	24.5	24.9	19.4	- 1.2	+ 1.6	- 22.1
Belgium	21.9	21.5	22.5	19.1	- 1.8	+ 4.7	- 15.1
Czechia	21.3	21.9	22.4	17.9	+ 2.8	+ 2.3	- 20.1
Romania	17.8	18.0	18.2	17.8	+ 1.1	+ 1.1	- 2.2
Ukraine	16.8	19.2	19.2	17.6	+ 14.3	+ 0.0	- 8.3
Italy	15.6	15.8	16.0	14.6	+ 1.3	+ 1.3	- 8.8
Austria	9.7	9.8	9.9	9.3	+ 1.0	+ 1.0	- 6.1
Turkey	9.1	9.3	9.3	8.5	+ 2.2	+ 0.0	- 8.6
Ireland	7.8	8.0	8.1	7.4	+ 2.6	+ 1.3	- 8.6
Portugal	6.4	6.8	6.7	6.1	+ 6.3	- 1.5	- 9.0
Hungary	6.7	6.7	7.1	6.0	+ 0.0	+ 6.0	- 15.5
Denmark	6.3	6.4	5.9	5.7	+ 1.6	- 7.8	- 3.4
Bulgaria	5.1	5.2	5.2	4.8	+ 2.0	+ 0.0	- 7.7
Sweden	4.6	4.7	4.6	4.7	+ 2.2	- 2.1	+ 2.2
Finland	3.8	3.8	4.0	3.5	+ 0.0	+ 5.3	- 12.5
Greece	4.0	4.2	3.6	3.4	+ 5.0	- 14.3	- 5.6
Switzerland	3.5	3.8	3.7	3.3	+ 8.6	- 2.6	- 10.8
Croatia	3.5	3.4	3.4	2.9	- 2.9	+ 0.0	- 14.7
Slovakia	2.6	2.7	2.7	2.9	+ 3.8	+ 0.0	+ 7.4
Norway	2.9	2.1	2.6	2.6	- 27.6	23.8	+ 0.0
Latvia	2.9	2.8	2.7	2.5	- 3.4	- 3.6	- 7.4
Slovenia	1.6	1.7	2.0	1.8	+ 6.3	+ 17.6	- 10.0
Estonia	1.4	1.3	1.3	1.2	- 7.1	+ 0.0	- 7.7
Lithuania	0.8	0.9	0.8	0.8	12.5	- 11.1	+ 0.0
Albania	0.6	0.7	0.7	0.6	16.7	0.0	- 14.3
Cyprus	0.4	0.4	0.4	0.4	+ 0.0	+ 0.0	+ 0.0
Luxembourg	0.3	0.3	0.3	0.3	+ 0.0	+ 0.0	+ 0.0
Malta	0.2	0.2	0.2	0.2	+ 0.0	+ 0.0	+ 0.0
Europe rest	19.0	15.6	15.5	14.2	- 17.9	- 0.6	- 8.4
Europe total	530.2	528.0	529.9	481.1	- 0.4	+ 0.4	- 9.2
USA	217.8	214.4	214.0	210.0	- 1.6	- 0.2	- 1.9
Brazil	140.0	140.0	140.0	135.0	+ 0.0	+ 0.0	- 3.6
Mexico	110.0	115.0	116.0	112.0	+ 4.5	+ 0.9	- 3.4
Colombia	21.9	22.8	22.9	22.0	+ 4.1	+ 0.4	- 3.9
Canada	22.1	22.1	22.1	21.8	+ 0.0	+ 0.0	- 1.4
Argentina	18.9	19.2	19.2	19.0	+ 1.6	+ 0.0	- 1.0
Peru	14.4	14.5	14.5	14.0	+ 0.7	+ 0.0	- 3.4
Chile	8.4	8.4	8.7	8.6	+ 0.0	+ 3.6	- 1.1
Equador	6.0	5.4	5.6	5.3	- 10.0	+ 3.7	- 5.4
Dominican Rep.	4.0	5.0	5.0	4.9	+ 25.0	+ 0.0	- 2.0
Venezuela	3.8	3.9	3.9	3.8	+ 2.6	+ 0.0	- 2.6
Bolivia	7.2	4.5	4.0	3.5	- 37.5	- 11.1	- 12.5
Panama	3.4	3.4	3.4	3.3	+ 0.0	+ 0.0	- 2.9
Paraguay	3.0	3.3	3.3	3.1	+ 10.0	+ 0.0	- 6.1
Cuba	2.6	3.1	3.1	3.1	+ 19.2	+ 0.0	+ 0.0
Honduras	1.1	2.3	2.3	2.1	+ 109.1	+ 0.0	- 8.7
Guatemala	1.5	2.0	2.0	2.0	+ 33.3	+ 0.0	+ 0.0
Costa Rica	1.7	1.9	1.9	1.7	+ 11.8	+ 0.0	- 10.5
El Salvador	1.2	1.6	1.6	1.5	+ 33.3	+ 0.0	- 6.3
Nicaragua	1.6	1.5	1.5	1.4	- 6.3	+ 0.0	- 6.7
Jamaica	1.0	1.1	1.1	1.1	+ 10.0	+ 0.0	+ 0.0



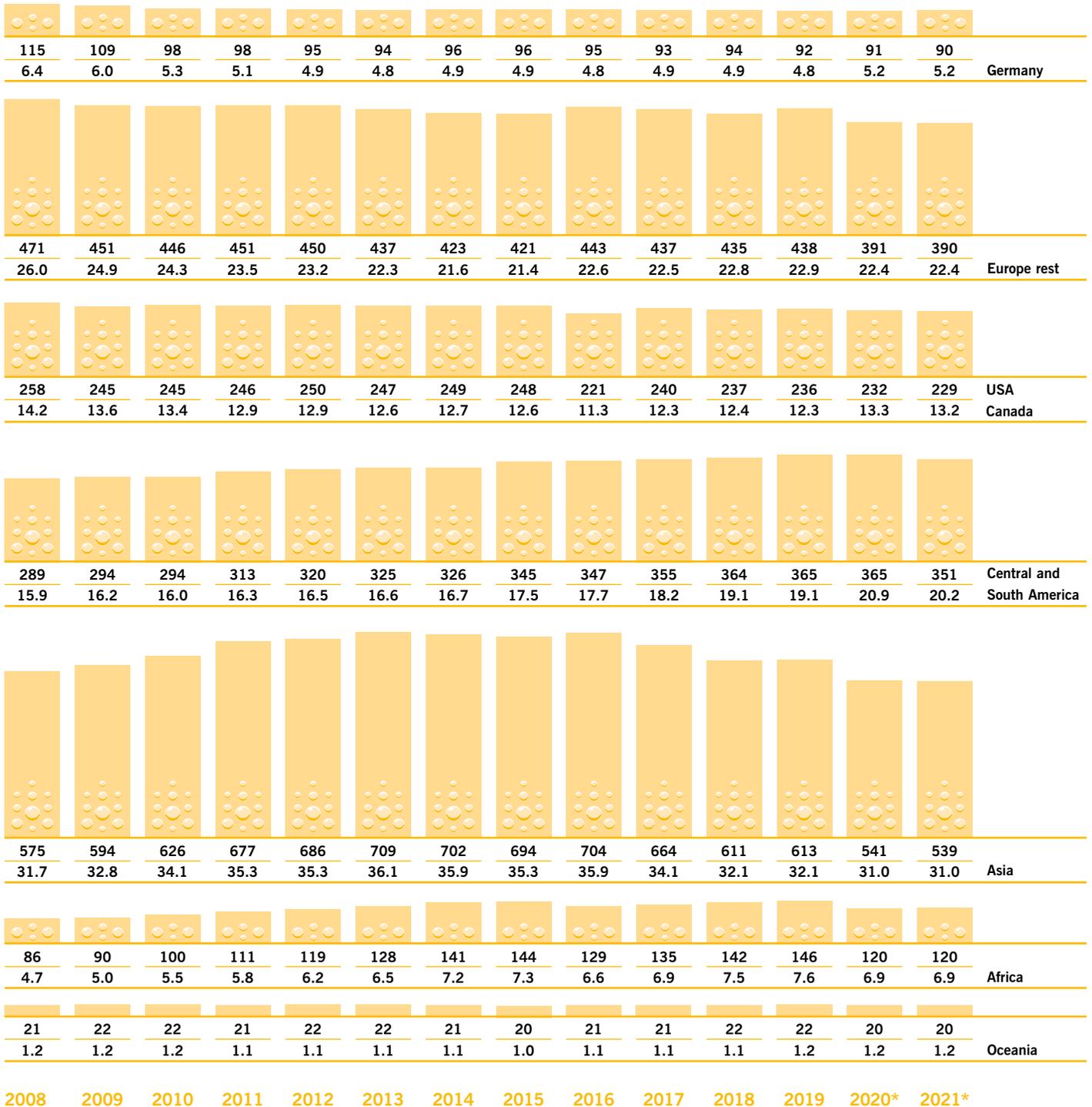
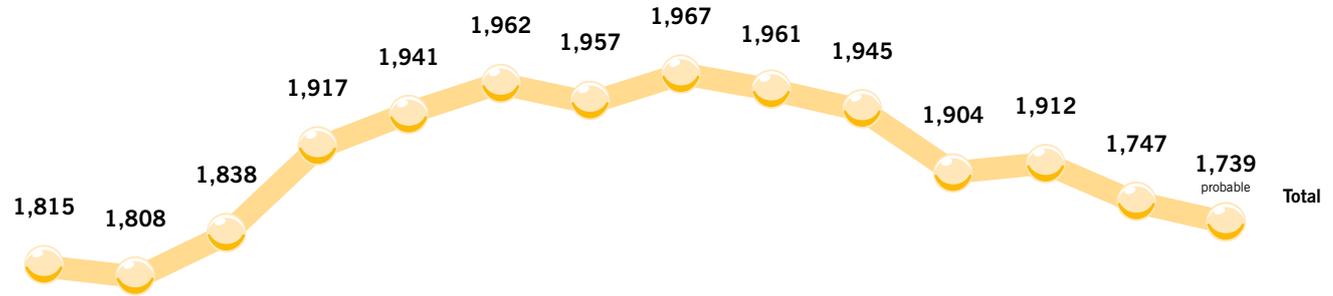
*Estimate

	Beer Production in Mio hl				+/- %		
	2017	2018	2019	2020*	17/18	18/19	19/20*
→ Trinidad	1.0	1.1	1.1	1.0	+ 10.0	+ 0.0	- 9.1
Uruguay	0.4	1.1	1.1	1.0	+ 175.0	+ 0.0	- 9.1
Puerto Rico	0.8	0.7	0.7	0.7	- 12.5	+ 0.0	+ 0.0
America rest	1.0	2.0	2.3	2.3	100.0	15.0	+ 0.0
America total	594.8	600.3	601.3	584.2	+ 0.9	+ 0.2	- 2.8
P.R.China	440.0	382.0	375.0	337.4	- 13.2	- 1.8	- 10.0
Japan	51.6	49.0	52.5	44.9	- 5.0	+ 7.1	- 14.5
Vietnam	46.1	43.5	44.8	36.0	- 5.6	+ 3.0	- 19.6
India	19.7	23.9	25.2	22.0	+ 21.3	+ 5.4	- 12.7
Thailand	22.5	24.0	24.0	20.5	+ 6.7	+ 0.0	- 14.6
South Korea	21.3	20.0	18.2	17.0	- 6.1	- 9.0	- 6.6
Philippines	22.0	19.5	19.5	16.0	- 11.4	+ 0.0	- 17.9
Cambodscha	6.9	9.8	12.0	11.5	+ 42.0	+ 22.4	- 4.2
Taiwan	4.0	4.3	6.0	5.5	+ 7.5	+ 39.5	- 8.3
Myanmar	5.6	5.6	5.6	4.8	+ 0.0	+ 0.0	- 14.3
Laos	4.4	4.5	5.1	4.4	+ 2.3	+ 13.3	- 13.7
Malaysia	2.6	2.8	3.1	2.8	+ 7.7	+ 10.7	- 9.7
Indonesia	1.5	1.6	1.8	1.6	+ 6.7	+ 12.5	- 11.1
Sri Lanka	2.0	2.3	2.2	1.3	+ 15.0	- 4.3	- 40.9
Singapore	1.4	1.5	1.5	1.3	+ 7.1	+ 0.0	- 13.3
Israel	1.1	1.4	1.4	1.2	+ 27.3	+ 0.0	- 14.3
Mongolia	1.3	1.3	1.3	1.1	+ 0.0	+ 0.0	- 15.4
Nepal	0.6	1.2	1.2	1.0	+ 100.0	+ 0.0	- 16.7
Lebanon	0.3	0.2	0.2	0.2	- 33.3	+ 0.0	+ 0.0
Jordan	0.1	0.1	0.1	0.1	+ 0.0	+ 0.0	+ 0.0
Pakistan	0.1	0.1	0.1	0.1	+ 0.0	+ 0.0	+ 0.0
Asia rest	9.0	12.4	12.2	10.4	37.8	- 1.6	- 14.8
Asia total	664.1	611.0	613.0	541.1	- 8.0	+ 0.3	- 11.7
South Africa	32.3	32.9	33.1	24.8	+ 1.9	+ 0.6	- 25.1
Nigeria	17.0	17.0	17.5	14.1	+ 0.0	+ 2.9	- 19.4
Ethiopia	11.8	13.0	13.5	10.9	+ 10.2	+ 3.8	- 19.3
Angola	8.5	10.2	10.8	8.7	+ 20.0	+ 5.9	- 19.4
Cameroon	6.6	6.9	6.5	5.3	+ 4.5	- 5.8	- 18.5
Kenya	5.5	6.2	6.3	5.1	+ 12.7	+ 1.6	- 19.0
Zaire	4.6	4.7	4.5	3.6	+ 2.2	- 4.3	- 20.0
Tanzania	4.5	4.7	4.4	3.6	+ 4.4	- 6.4	- 18.2
Uganda	3.4	4.1	3.8	3.1	20.6	- 7.3	- 18.4
Mosambique	3.1	3.5	3.4	2.7	12.9	- 2.9	- 20.6
Ivory Coast	3.0	3.0	3.1	2.5	+ 0.0	+ 3.3	- 19.4
Zambia	1.7	2.4	2.5	2.0	41.2	+ 4.2	- 20.0
Zimbabwe	2.3	1.9	2.2	1.8	- 17.4	+ 15.8	- 18.2
Tunisia	1.9	1.7	2.0	1.6	- 10.5	+ 17.6	- 20.0
Ghana	1.8	1.8	2.0	1.6	+ 0.0	+ 11.1	- 20.0
Algeria	1.6	1.7	1.6	1.3	+ 6.3	- 5.9	- 18.8
Madagascar	1.5	1.6	1.6	1.3	+ 6.7	+ 0.0	- 18.8
Egypt	1.0	1.1	1.2	1.0	+ 10.0	+ 9.1	- 16.7
Marocco	0.8	0.9	0.8	0.7	+ 12.5	- 11.1	- 12.5
Mauritius	0.4	0.4	0.4	0.3	+ 0.0	+ 0.0	- 25.0
Africa rest	21.7	19.8	24.3	24.4	- 8.8	22.7	+ 0.4
Africa total	135.0	142.3	145.5	120.4	+ 5.4	+ 2.2	- 17.3
Australia	16.3	17.6	17.5	16.1	+ 8.0	- 0.6	- 8.0
New Zealand	2.9	3.0	3.0	2.8	+ 3.4	+ 0.0	- 6.7
Oceania rest	1.5	1.7	1.6	1.5	+ 13.3	- 5.9	- 6.3
Oceania total	20.7	22.3	22.1	20.4	+ 7.7	- 0.9	- 7.7
World total	1,944.8	1,903.9	1,911.8	1,747.2	- 2.1	+ 0.4	- 8.6

*Estimate

World Beer Production 2008– 2021

(Mio hl and % share)



*Estimate

Possible trends in the US Craft market

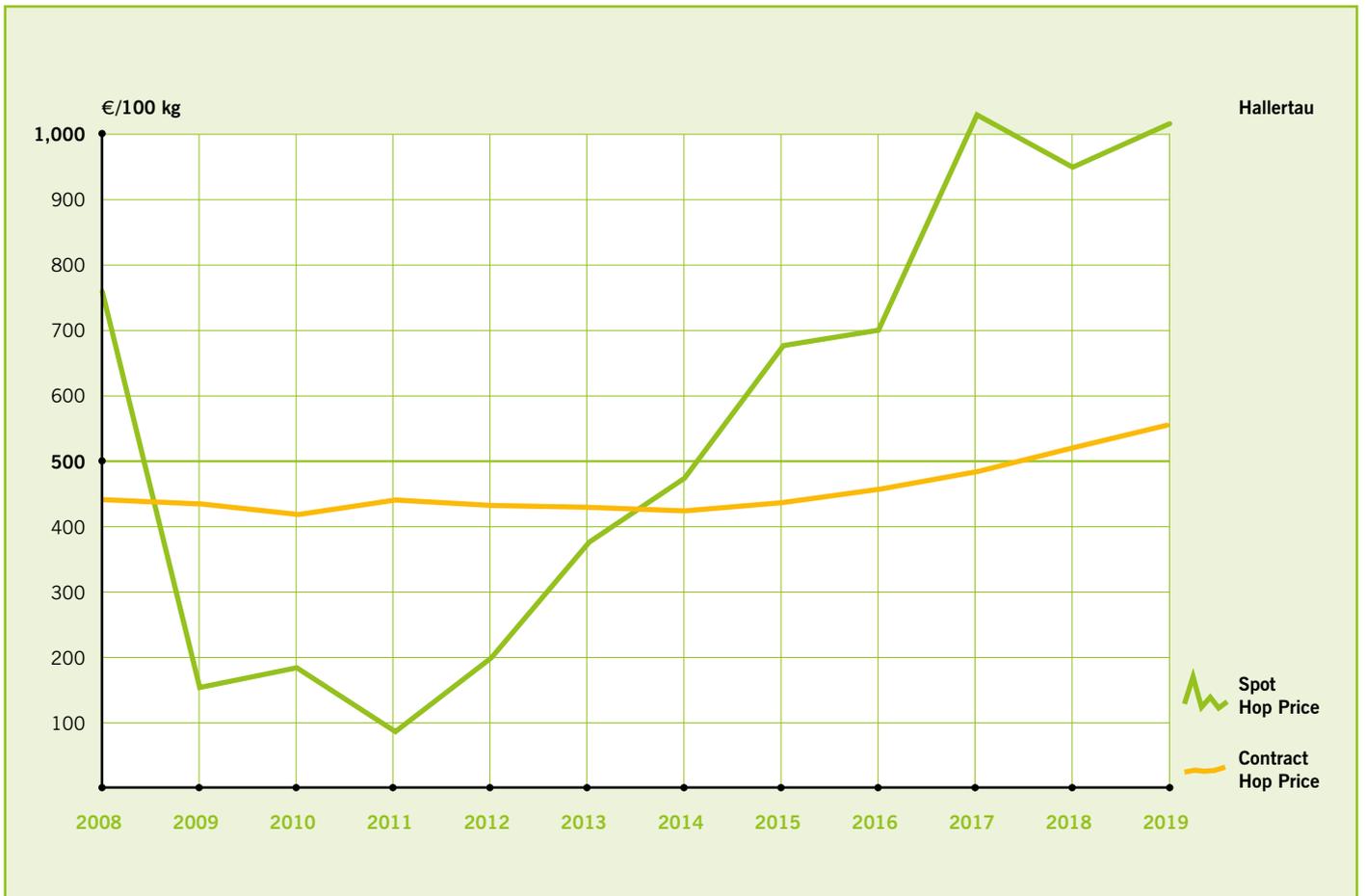
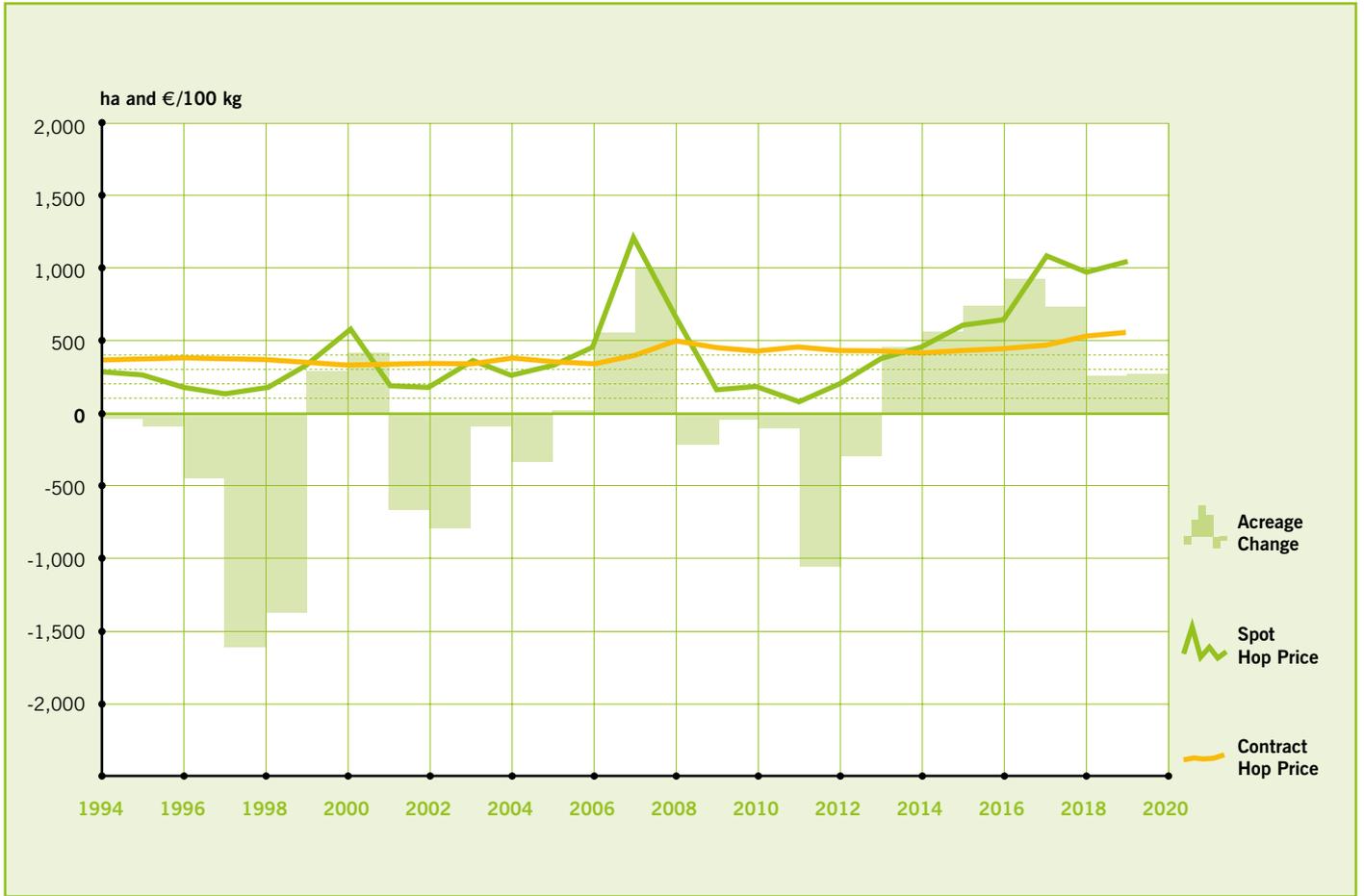
The importance of craft beers for the hop market is very high due to the high use of hop products in the production of these beers. For this reason, in order to assess the market situation and calculate the average alpha acid addition, we have placed special emphasis on estimating the development of craft beer output in the USA. Our US team has prepared the following assessment.

Scenarios					Growth Assumptions +/- %		
Craft Barrels	2019 actual	2020 probable	2020 worst	2020 best	2020 probable	2020 worst	2020 best
Contract	306,957	306,957	291,609	322,305	+ 0.0	- 5.0	+ 5.0
Regional	17,918,642	18,366,608	17,022,710	18,814,574	+ 3.0	- 5.0	+ 5.0
Microbrewery	4,888,669	4,888,669	4,399,802	5,133,102	+ 0.0	- 10.0	+ 5.0
Taproom	1,615,881	1,454,293	1,292,705	1,535,087	- 10.0	- 20.0	- 5.0
Brewpub	1,617,768	1,375,103	1,213,326	1,455,991	- 15.0	- 25.0	- 10.0
Non-BA Craft	2,900,000	3,045,000	2,755,000	3,335,000	+ 5.0	- 5.0	+ 15.0
Total Craft Barrels	29,247,917	29,436,630	26,975,152	30,596,060			
YOY Change		+ 0.6 %	- 7.8 %	+ 4.6 %			

World Hop Acid Supply and Demand 2013 – 2020 in three scenarios

	Production	Beer Production	Alpha Dosage	Alpha Usage	Annual Balance	
	(mt Alpha)	(Mio hl)	(g Alpha/hl)	(mt Alpha)	(mt Alpha)	
2013	7,211	2014	1,957	4.4	8,611	- 1,400
2014	8,350	2015	1,967	4.5	8,852	- 502
2015	6,838	2016	1,961	4.5	8,825	- 1,987
2016	9,373	2017	1,945	4.6	8,947	426
2017	9,901	2018	1,904	4.7	8,949	952
2018	10,123	2019	1,912	4.9	9,266	857
2019	11,316	2020*	1,747	5.0	8,735	2,581
2020*	11,369 probable	2021*	1,739	5.0	8,695	2,674
2020*	11,369 worst	2021*	1,589	5.0	7,945	3,424
2020*	11,369 best	2021*	1,884	5.0	9,420	1,949

*Estimate



Hop Market Review and Outlook

Retrospective

Less-than-ideal growing conditions in Europe led to a poor 2019 crop with below-average yields and alpha values. The 2019 crop in USA was normal/average.

The 2019 worldwide average alpha value of 8.8% was just above the 8.6% harvested in 2018. The world crop of approximately 129,160 metric tons of hops therefore produced 11,316 metric tons of alpha, against a calculated 2020 brewing year demand of approximately 8,735 metric tons of alpha. This demand calculation is based upon beer output reduced by the worldwide pandemic down to 1,747 million hectoliters. This therefore translates into a theoretical oversupply of hops of approximately 2,581 metric tons of alpha.

The sold-ahead percentage of crop 2019 was very high. As a result, the hops available on the spot market were sold very quickly. Nevertheless, demand was not so great as to prompt large transfers by breweries with surplus contracts. Once the pandemic took hold in March 2020, a quiet market became quieter.

Look Ahead

Despite the general oversupply and pandemic situation, the acreage planted to hops rose again for crop 2020 by approximately 1,310 hectares. The increase in acres in USA of approximately 1,000 hectares or 4.4% appeared particularly out of touch with the realities of the market and global economic situation. The acres reflected contracts made before the pandemic and of course before its impact could be fully registered. Nevertheless, full yields on the new acres will appear beginning in 2021, and the new realities of the market indicate that certain adjustments should be made.

A particular challenge for European hop growers was the ban on migrant labor during spring 2020. Despite this problem, growers found local labor sources and were able to plant and train the crop on time. The summer growing season was agreeable, so for the first time in a few years yields were average to normal.

In USA growing conditions were fine until harvest. Mother Nature then began to take a negative toll on the crop, with both high disease pressure and extraordinary wind storms leading to reduction in yields in the Pacific Northwest. All told, the crop came in approximately 11 million lbs. below the August USDA estimate.

The German crop of approximately 46,760 metric tons is somewhat smaller than 2019 but fortunately does have alpha levels that are in line with long-term averages.

The crops in England and the Czech Republic are unfortunately much smaller than in 2019, with poor yields belying good-looking hop gardens. In other growing areas the crops came in at average levels, with no particularly noteworthy incidents.

The total European crop resulted in 63,283 metric tons of hops. The worldwide crop came in at approximately 122,363 metric tons of hops, or 5.3% less than 2019. Nevertheless, the average alpha value increased to 9.3% from 8.8% in 2019. This is largely due to a return to average levels in Germany after several consecutive crops below normal.



It is difficult to project beer production numbers during the pandemic. We have experimented with the alpha balance using a range of beer output scenarios. Calculating low, middle and high projections has resulted in the below theoretical alpha balance results (see p.13), all based upon craft beer having a 3% global market share:

We still expect craft beer to have a relatively stable output in 2020 and 2021, with volumes gaining or losing depending more upon each brewery than the overall market.

Detailed data can be found in the tables in the preceding pages of this report.

As in the previous several years, the 2020 crop was heavily sold prior to harvest, largely at 90% or greater. Given this fact and pandemic-driven lower beer sales, it is safe to say that brewery hop stocks will increase following the crop, above the levels recently cited by [USDA reports](#).

We assume that the increase in brewery hop stocks combined with the pandemic will lead to strategic decisions to postpone additional purchases until the economic situation becomes more clear. Nevertheless, security of supply remains a critical issue for brewers large and small worldwide. Central to this is continued financing of inventory and the maintenance of cash flow for the hop industry.

Another key aspect to security of supply is diversity of the varieties and growing regions. In USA the over reliance on certain low-yielding, agronomically weak aroma varieties is likely to be reconsidered after two consecutive short harvests. In Germany, the alpha workhorse Hercules has shown signs of agronomic weaknesses. At Hopsteiner, we are committed to cutting edge technology to breed new varieties that embody greater agronomic sustainability as well as the aroma and bitter profiles sought after by brewers worldwide.


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Simon H. Steiner, Hopfen, GmbH

Auhofstraße 18 | D-84048 Mainburg, Germany
Tel +49 (0) 87 51-86 05-0 | Fax +49 (0) 87 51-86 05-80
E-mail info@hopsteiner.de

S.S. Steiner, Inc.

725 5th Avenue, New York, N.Y., 10022, USA
Tel +1 800 339 8410 | Fax +1 212 593-4238
E-mail sales@hopsteiner.com

Steiner Hops Limited

185-189 High Street, Epping, Essex CM16 4BL, England
Tel +44 (0) 1992 572 331 | Fax +44 (0) 1992 573 780
E-mail enquiries@hopsteiner.co.uk

Steiner Asia

Steiner Hops (Zhuhai) Co., Ltd.
1503 Jiu Chang Building, No. 8, Hai Zhou Road, Ji Da District,
Zhuhai, Guangdong, China 519015
Tel +86 756 322-3340 | Fax +86 756 322-3345
E-mail info@hopsteiner.com.cn

www.hopsteiner.com