Hopsteiner®

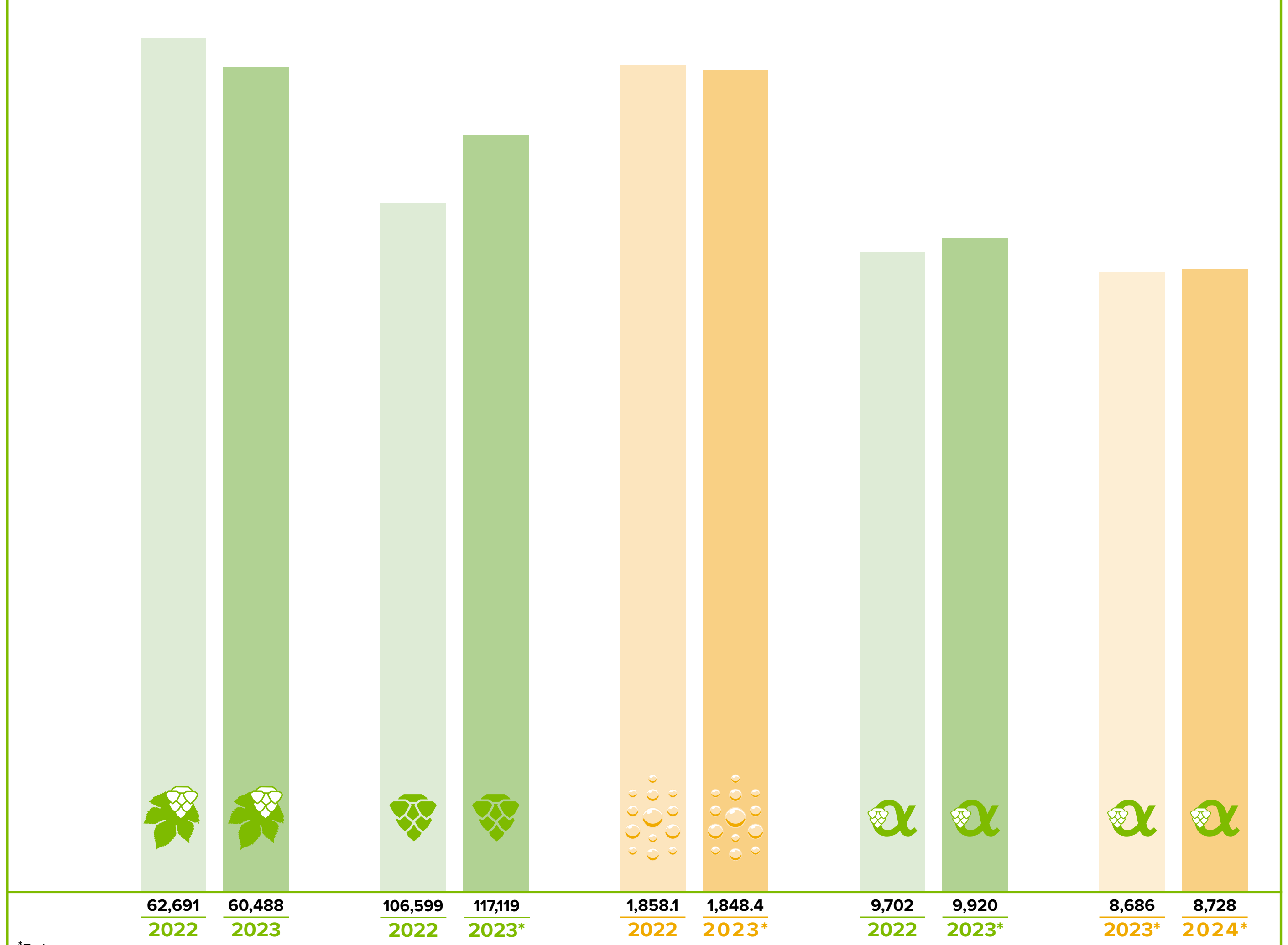
2023 GUIDELINES

FOR HOP BUYING

www.hopsteiner.de

OVERVIEW FOR KEY DATA

	World Hop Acreage	World Hop Crop	World Beer Production	World Alpha Acids Production	World Alpha Acids Demand
	(ha)	(mt)	(Mio. hl)	(mt)	(mt)
2021	63,544	130,353	1,855.5	12,567	9,094
	+ 1.7 %	+ 6.9	+ 5.0 %	+ 10.0 %	+ 7.2 %
2022	62,691	106,599	1,858.1	9,702	8,918
	- 1.3 %	- 18.2	+ 0.1 %	- 22.8 %	- 1.9 %
2023	60,488	117,119*	1,848.4*	9,920*	8,686*
	- 3.5 %	+ 9.9*	- 0.5 %*	+ 2.2 %*	- 2.6 %*
2024	–	–	1,857.0*	–	8,728*
	–	–	+ 0.5 %*	–	+ 0.5 %*



*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)	

FOREWORD

The 2023 European hop crop was negatively affected by the weather. Like in 2022, high temperatures and weeks without adequate rainfall led to below-average yields and alpha acid contents. It is clear that structural change is needed to rectify this problem. European growing areas will need to install irrigation systems and a proactive evolution of hop varieties will have to take place.

It is fortunate that these consecutive short crops have occurred in a time of overproduction of hops and weak beer sales. Hop acreage will continue to adjust to move closer to demand. This will mean a much tighter margin for error with hop contracts.

Brewers will need to manage their risk by continuing to make future contracts but also to intensify their efforts to accept new varieties into their recipes. It is clear from the more stable yields in USA that it is possible to use both sustainable water infrastructure and technology to stabilize yields and reduce risk.

We look forward to a constructive dialogue as we move ahead with hop breeding, growing, and processing initiatives that will provide a bright future.

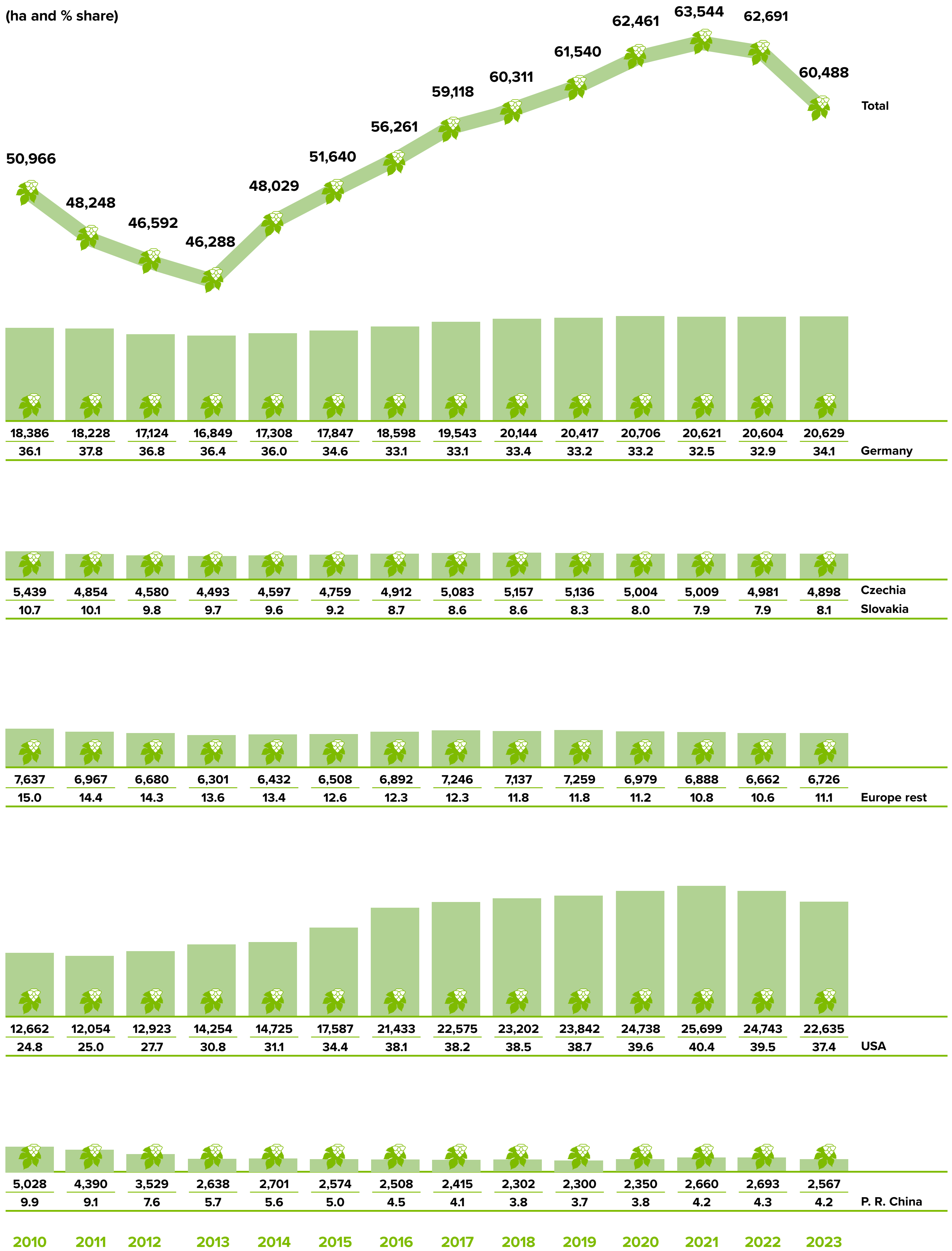
Your Hopsteiner Team
November 2023

HOP ACREAGE
2020 – 2023

	Acreage in ha				+/- %		
	2020	2021	2022	2023	20/21	21/22	22/23
Hallertauer	501	478	459	448	- 4.6	- 4.0	- 2.4
Hersbrucker	898	815	804	778	- 9.2	- 1.3	- 3.2
Perle	2,887	2,886	2,896	2,765	- + 0.0	+ 0.3	- 4.5
Akoya	24	90	105	112	+ 275.0	+ 16.7	+ 6.7
Spalter Select	491	444	426	417	- 9.6	- 4.1	- 2.1
Tradition	2,718	2,661	2,579	2,486	- 2.1	- 3.1	- 3.6
Saphir	369	317	299	255	- 14.1	- 5.7	- 14.7
Northern Brewer	133	127	115	83	- 4.5	- 9.4	- 27.8
Magnum	1,290	1,234	1,197	1,159	- 4.3	- 3.0	- 3.2
Taurus	196	165	157	143	- 15.8	- 4.8	- 8.9
Herkules	6,254	6,499	6,659	7,002	+ 3.9	+ 2.5	+ 5.2
Polaris	216	291	349	410	+ 34.7	+ 19.9	+ 17.5
Rest	1,256	1,115	1,065	1,071	- 11.2	- 4.5	+ 0.6
Hallertau	**17,233**	**17,122**	**17,110**	**17,129**	**- 0.6**	**- 0.1**	**+ 0.1**
Elbe-Saale	1,564	1,582	1,575	1,563	+ 1.2	- 0.4	- 0.8
Tettnang	1,479	1,494	1,497	1,517	+ 1.0	+ 0.2	+ 1.3
Spalt	408	400	409	403	- 2.0	+ 2.3	- 1.5
Rest	22	23	13	18	+ 4.5	- 43.5	+ 38.5
Germany total	**20,706**	**20,621**	**20,604**	**20,629**	**- 0.4**	**- 0.1**	**+ 0.1**
Austria	255	255	263	263	+ 0.0	+ 3.1	+ 0.0
Belgium	182	182	182	185	+ 0.0	+ 0.0	+ 1.6
Bulgaria	33	33	39	43	+ 0.0	+ 18.2	+ 10.3
Czech Rep.	4,966	4,971	4,943	4,860	+ 0.1	- 0.6	- 1.7
England	867	670	649	553	- 22.7	- 3.1	- 14.8
France	500	557	547	562	+ 11.4	- 1.8	+ 2.7
Poland	1,758	1,758	1,728	1,738	+ 0.0	- 1.7	+ 0.6
Romania	265	267	270	275	+ 0.8	+ 1.1	+ 1.9
Russia	254	254	350	450	+ 0.0	+ 37.8	+ 28.6
Slovakia	38	38	38	38	+ 0.0	+ 0.0	+ 0.0
Slovenia	1,480	1,535	1,626	1,675	+ 3.7	+ 5.9	+ 3.0
Spain	556	568	579	573	+ 2.2	+ 1.9	- 1.0
Turkey	250	230	180	180	- 8.0	- 21.7	+ 0.0
Ukraine	472	472	150	130	+ 0.0	- 68.2	- 13.3
Rest	107	107	100	100	+ 0.0	- 6.5	+ 0.0
Europe total	**32,689**	**32,518**	**32,247**	**32,253**	**- 0.5**	**- 0.8**	**+ 0.0**
Amarillo	870	772	775	889	- 11.3	+ 0.4	+ 14.7
Apollo	368	374	391	410	+ 1.6	+ 4.5	+ 4.9
Bravo	85	103	88	89	+ 21.2	- 14.6	+ 1.1
Cascade	1,634	1,753	2,068	1,750	+ 7.3	+ 18.0	- 15.4
Centennial	1,187	949	982	1,028	- 20.1	+ 3.5	+ 4.7
Chinook	766	719	840	723	- 6.1	+ 16.8	- 13.9
Citra	4,450	4,852	4,878	3,549	+ 9.0	+ 0.5	- 27.2
Col. / Tom. / Zeus	2,544	2,255	1,830	2,624	- 11.4	- 18.8	+ 43.4
Eureka!	264	319	423	478	+ 20.8	+ 32.6	+ 13.0
Helios	-	-	-	590	-	-	+ 100.0
Mosaic	2,224	2,599	2,633	2,089	+ 16.9	+ 1.3	- 20.7
Super Galena	253	226	149	149	- 10.7	- 34.1	+ 0.0
Willamette	395	392	427	468	- 0.8	+ 8.9	+ 9.6
Rest	8,692	9,349	8,742	7,345	+ 7.6	- 6.5	- 16.0
PNW total	23,732	24,662	24,225	22,178	+ 3.9	- 1.8	- 8.4
Other	1,006	1,008	518	457	+ 0.2	- 48.6	- 11.8
USA total	**24,738**	**25,669**	**24,743**	**22,635**	**+ 3.8**	**- 3.6**	**- 8.5**
Argentina	186	178	178	178	- 4.3	+ 0.0	+ 0.0
Australia	743	787	919	945	+ 5.9	+ 16.8	+ 2.8
Japan	106	106	106	106	+ 0.0	+ 0.0	+ 0.0
New Zealand	743	743	976	976	+ 0.0	+ 31.4	+ 0.0
P.R.China	2,350	2,660	2,693	2,567	+ 13.2	+ 1.2	- 4.7
South Africa	427	404	409	408	- 5.4	+ 1.2	- 0.2
Rest	479	479	420	420	+ 0.0	- 12.3	+ 0.0
World total	**62,461**	**63,544**	**62,691**	**60,488**	**+ 1.7**	**- 1.3**	**- 3.5**

PNW = Pacific Northwest

HOP ACREAGE
2010 – 2023



CROP QUANTITIES

AND AVERAGE YIELDS 2020 – 2023

available ● · still available ● · not available ●

Crop Quantities in mt and availability (current crop A and pre-contracts B)							+/- %			Ø Yields in mt / ha			
	2020	2021	2022	2023*	A	B	20/21	21/22	22/23*	2020	2021	2022	2023*
Hallertauer	757.3	762.6	414.5	517.0	not available	still available	+ 0.7	- 45.6	+ 24.7	1.51	1.60	0.90	1.15
Hersbrucker	1,665.0	1,443.1	1,159.9	1,166.0	still available	still available	- 13.3	- 19.6	+ 0.5	1.85	1.77	1.44	1.50
Perle	5,481.0	6,134.4	3,395.9	4,909.0	still available	available	+ 11.9	- 44.6	+ 44.6	1.90	2.13	1.17	1.78
Akoya	8.9	60.5	147.4	178.0	available	available	+ 579.8	+ 143.6	+ 20.8	0.37	0.67	1.40	1.59
Spalter Select	985.2	935.8	594.8	708.0	not available	still available	- 5.0	- 36.4	+ 19.0	2.01	2.11	1.40	1.70
Tradition	5,140.5	5,447.4	3,321.4	4,231.0	still available	available	+ 6.0	- 39.0	+ 27.4	1.89	2.05	1.29	1.70
Saphir	774.6	690.0	429.6	461.0	still available	still available	- 10.9	- 37.7	+ 7.3	2.10	2.18	1.44	1.81
Northern Brewer	244.9	231.9	109.4	103.0	still available	still available	- 5.3	- 52.8	- 5.9	1.84	1.83	0.95	1.24
Magnum	2,726.6	2,909.8	1,765.0	1,804.0	still available	available	+ 6.7	- 39.3	+ 2.2	2.11	2.36	1.47	1.56
Taurus	384.0	356.1	215.5	233.0	still available	still available	- 7.3	- 39.5	+ 8.1	1.96	2.16	1.37	1.63
Herkules	18,792.8	19,172.6	15,307.7	17,233.0	still available	still available	+ 2.0	- 20.2	+ 12.6	3.00	2.95	2.30	2.46
Polaris	369.5	453.9	521.8	599.0	still available	still available	+ 22.8	+ 15.0	+ 14.8	1.71	1.56	1.50	1.46
Others	2,954.6	2,494.9	1,769.5	1,883.0			- 15.6	- 29.1	+ 6.4	2.31	2.24	1.66	1.76
Hallertau	**40,284.9**	**41,093.0**	**29,152.4**	**34.025.0**			**+ 2.0**	**- 29.1**	**+ 16.7**	**2.34**	**2.40**	**1.70**	**1.99**
Elbe-Saale	2,980.6	3,223.3	2,528.6	2.989.0			+ 8.1	- 21.6	+ 18.2	1.91	2.04	1.61	1.91
Tettnang	2,850.8	2,716.4	2,301.7	2,518.0			- 4.7	- 15.3	+ 9.4	1.93	1.82	1.54	1.66
Spalt	717.1	807.8	411.0	659.0			+ 12.6	- 49.1	+ 60.3	1.76	2.02	1.00	1.63
Rest	45.2	21.7	12.2	23.0			- 52.0	- 43.8	+ 88.5	2.05	0.94	0.94	1.28
Germany total	**46,878.6**	**47,862.2**	**34,405.9**	**40,214.0**			**+ 2.1**	**- 28.1**	**+ 16.9**	**2.26**	**2.32**	**1.67**	**1.95**
Austria	525.0	381.0	450.0	440.0			- 27.4	+ 18.1	- 2.2	2.88	2.09	2.47	2.38
Belgium	274.0	293.0	242.0	252.0			+ 6.9	- 17.4	+ 4.1	8.30	8.88	6.21	5.86
Bulgaria	62.5	53.4	58.3	60.1			- 14.6	+ 9.2	+ 3.1	0.07	0.08	0.09	0.11
Czech Rep.	5,925.0	8,481.4	4,452.0	6.789.7			+ 43.1	- 47.5	+ 52.5	1.19	1.71	0.90	1.40
England	924.0	916.5	639.0	718.0			- 0.8	- 30.3	+ 12.4	1.07	3.59	2.43	2.73
France	767.0	937.0	680.0	750.0			+ 22.2	- 27.4	+ 10.3	1.53	0.53	0.39	0.43
Poland	3,637.0	3,388.0	3,424.0	3,600.0			- 6.8	+ 1.1	+ 5.1	2.07	1.93	1.98	2.07
Romania	225.0	240.0	185.0	275.0			+ 6.7	- 22.9	+ 48.6	0.85	0.94	0.53	0.61
Russia	350.0	350.0	500.0	600.0			0.0	+ 42.9	+ 20.0	1.38	1.38	1.43	1.33
Slovakia	26.0	40.2	20.0	18.0			+ 54.6	- 50.2	- 10.0	0.68	1.06	0.53	0.47
Slovenia	2,723.0	2,186.0	2,283.0	2,500.0			- 19.7	+ 4.4	+ 9.5	1.84	1.42	1.40	1.49
Spain	908.0	957.0	1,000.0	863.0			+ 5.4	+ 4.5	- 13.7	1.63	1.68	1.73	1.51
Turkey	340.0	290.0	220.0	240.0			- 14.7	- 24.1	+ 9.1	1.36	1.26	1.22	1.33
Ukraine	492.0	500.0	158.0	160.0			+ 1.6	- 68.4	+ 1.3	1.04	1.06	1.05	1.23
Rest	117.7	106.9	94.0	100.0			- 9.2	- 12.1	+ 6.4	1.10	1.00	0.94	1.00
Europe total	**64,174.8**	**66,982.6**	**48,811.2**	**57,579.8**			**+ 4.4**	**- 27.1**	**+ 18.0**	**1.96**	**2.06**	**1.51**	**1.79**
Amarillo	1,659.3	1,507.7	1,321.2	1,912.9	available	available	- 9.1	- 12.4	+ 44.8	1.91	1.95	1.70	2.15
Apollo	948.6	1,205.1	1,085.9	1,328.3	not available	still available	+ 27.0	- 9.9	+ 22.3	2.58	3.22	2.78	3.24
Bravo	215.5	306.8	210.0	279.8	still available	still available	+ 42.4	- 31.6	+ 33.2	2.54	2.98	2.39	3.14
Cascade	2,808.5	3,108.9	3,458.1	3,908.6	available	still available	+ 10.7	+ 11.2	+ 13.0	1.72	1.77	1.67	2.23
Centennial	2,189.6	1,650.6	1,628.8	1,305.6	not available	still available	- 24.6	- 1.3	- 19.8	1.84	1.74	1.66	1.27
Chinook	1,408.0	1,547.2	1,297.4	1,581.1	available	still available	+ 9.9	- 16.1	+ 21.9	1.84	2.15	1.54	2.19
Citra	7,710.7	8,343.6	7,728.4	6,499.4	available	available	+ 8.2	- 7.4	- 15.9	1.73	1.72	1.58	1.83
Col./Tom./Zeus	6,532.8	6,952.6	4,805.1	6,870.9	still available	still available	+ 6.4	- 30.9	+ 43.0	2.57	3.08	2.63	2.62
Eureka!	674.3	994.1	1,044.3	1.347.8	still available	still available	+ 47.4	+ 5.0	+ 29.1	2.55	3.12	2.47	2.82
Helios	-	-	-	971.1	still available	still available	-	-	+ 100.0	-	-	-	1.65
Mosaic	5,204.5	6,184.5	5,919.2	5,594.1	available	available	+ 18.8	- 4.3	- 5.5	2.34	2.38	2.25	2.68
Super Galena	754.2	701.8	472.0	470.6	available	available	- 6.9	- 32.7	- 0.3	2.98	3.11	3.17	3.16
Willamette	774.6	598.7	663.7	712.3	still available	still available	- 22.7	+ 10.9	+ 7.3	1.96	1.53	1.55	1.52
Rest	16,206.7	19,327.2	16,339.4	14,297.4			+ 19.3	- 15.5	- 12.5	1.86	2.07	1.87	1.95
PNW total	47,087.3	52,428.8	45,973.5	47,079.9			+ 11.3	- 12.3	+ 2.4	1.98	2.13	1.90	2.12
Others	453.6	113.4	113.4	113.4			- 75.0	0.0	0.0	0.45	0.11	0.22	0.25
USA total	**47,540.9**	**52,542.2**	**46,086.9**	**47,193.3**			**+ 10.5**	**- 12.3**	**+ 2.4**	**1.92**	**2.05**	**1.86**	**2.08**
Argentina	331.0	268.0	325.0	254.0			- 19.0	+ 21.3	- 21.8	1.78	1.51	1.83	1.43
Australia	1,714.0	1,704.0	1,824.0	2,000.0			- 0.6	+ 7.0	+ 9.6	2.31	2.17	1.98	2.12
Japan	202.0	202.0	202.0	202.0			0.0	0.0	0.0	1.91	1.91	1.91	1.91
New Zealand	1,250.0	1,250.0	2,030.0	2,200.0			0.0	+ 62.4	+ 8.4	1.68	1.68	2.08	2.25
P.R.China	5,510.0	6,100.0	6,055.0	6,400.0			+ 10.7	- 0.7	+ 5.7	2.34	2.29	2.25	2.49
South Africa	706.0	739.0	715.0	739.8			+ 4.7	- 3.2	+ 3.5	1.65	0.28	0.27	0.29
Rest	565.0	565.0	550.0	550.0			0.0	- 2.7	0.0	1.18	1.18	1.31	1.31
World total	**121,993.7**	**130,352.8**	**106,599.1**	**117,118.9**			**+ 6.9**	**- 18.2**	**+ 9.9**	**1.95**	**2.05**	**1.70**	**1.94**

PNW = Pacific Northwest

*Estimate

WORLD HOP CROP

2010 – 2023

*Estimate

HOPSTEINER LABORATORY VALUES

2020 – 2023

Aroma Varieties	2020	2021	2022	2023
Alpha Content in %				
Hersbrucker	3.3	4.6	1.9	3.0
Perle	7.4	9.0	4.9	6.0
Tradition	6.3	6.1	5.2	4.9
Select	5.2	6.4	3.3	4.7
Tettnang	4.3	4.7	2.6	2.6
Spalt	4.7	5.2	2.8	3.0
Saaz	3.6	4.0	2.8	2.6
Styrian Aurora	11.4	6.8	7.0	9.7
Styrian Golding (Celeia)	4.1	3.3	2.6	4.1
US Cascade	6.4	6.5	6.0	5.8
US Willamette	4.9	5.0	4.0	4.3
Northern Brewer	9.1	10.5	6.4	7.5

Bitter Varieties	2020	2021	2022	2023
Alpha Content in %				
Herkules	16.6	18.7	15.4	13.9
Magnum	14.2	16.0	12.2	11.8
Taurus	15.5	17.8	14.6	13.8
US Super Galena	15.0	14.5	15.5	14.8
US Bravo	14.5	15.5	14.8	14.5
US Nugget	13.6	12.5	14.0	13.5
US Eureka!	18.2	18.0	17.0	16.7
CTZ	14.9	15.2	14.5	14.0
Pride of Ringwood	9.5	9.1	10.1	9.9
Dual Purpose	**2020**	**2021**	**2022**	**2023**
US Centennial	10.3	10.5	10.0	10.0
Sultana	14.7	14.0	15.0	15.0

WORLDWIDE USE OF HOPS AND HOP PRODUCTS 2010 – 2023

	Hops total	Pellets total		Extract total	
	(mt)	(mt)	(% total)	(mt)	(% total)
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	121,994	85,640	70.2	35,012	28.7
2021	130,353	94,376	72.4	34,413	26.4
2022	106,599	73,020	68.5	32,140	30.2
2023*	117,119	75,477	64.4	39,786	34.0

*Estimate

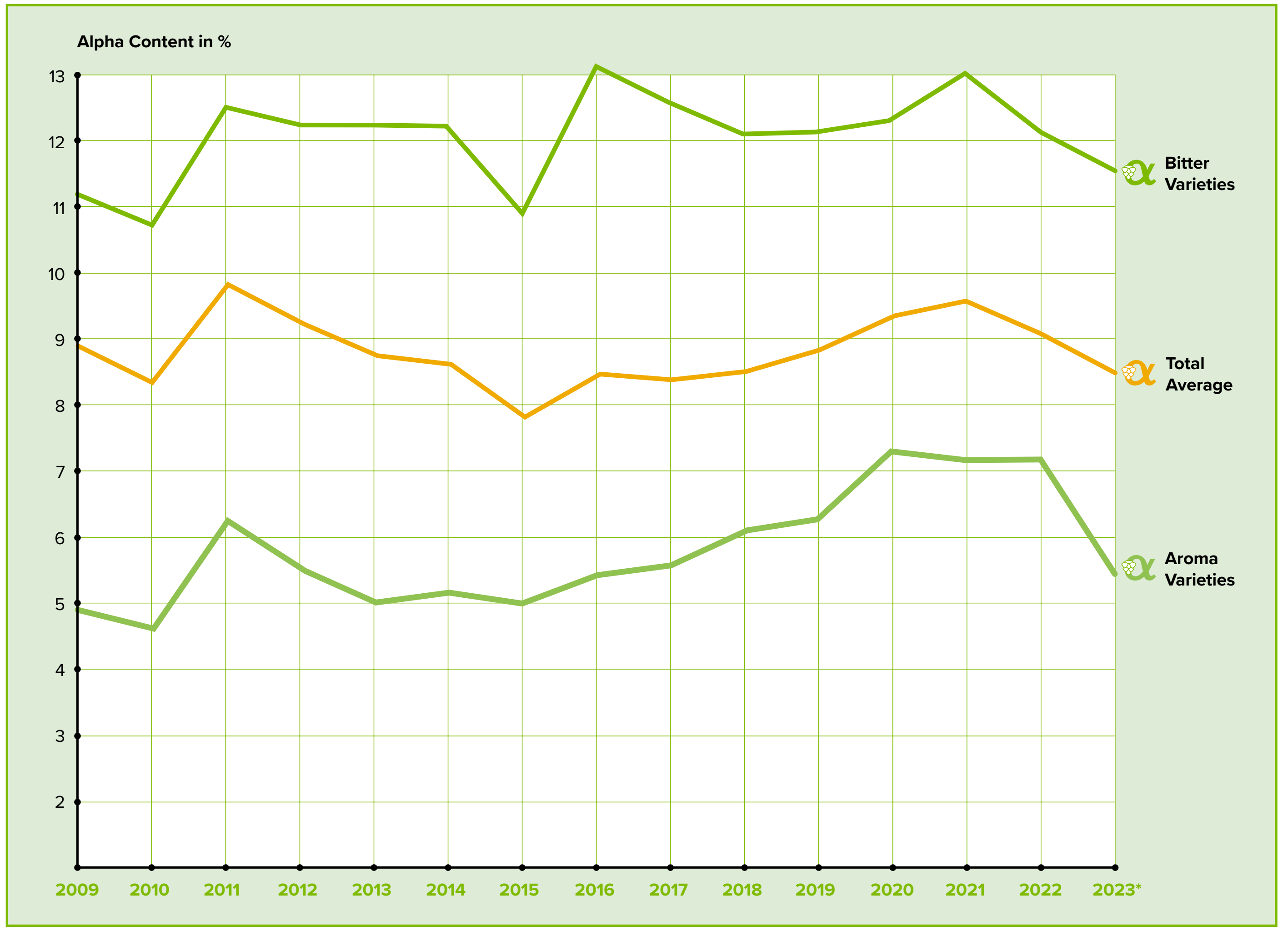
WORLD ALPHA ACIDS PRODUCTION

2020 – 2023

	Total Crop Quantities in mt				% share			
	2020	2021	2022	2023*	2020	2021	2022	2023*
Aroma Varieties	71,265	75,906	64,536	58,733	58.4	58.2	60.5	50.1
Bitter Varieties	50,729	54,446	42,063	58,386	41.6	41.8	39.5	49.9
Total	**121,994**	**130,353**	**106,599**	**117,119**	**100.0**	**100.0**	**100.0**	**100.0**

	Alpha Amount in kg				Alpha Content in %			
	2020	2021	2022	2023*	2020	2021	2022	2023*
Aroma Varieties	5,167,700	5,501,500	4,575,600	3,165,800	7.3	7.2	7.1	5.4
Bitter Varieties	6,256,100	7,065,800	5,126,800	6,754,100	12.3	13.0	12.2	11.6
Total	**11,423,800**	**12,567,300**	**9,702,400**	**9,919,900**	**9.4**	**9.6**	**9.1**	**8.5**

ALPHA VALUES OVER TIME 2009 – 2023



*Estimate

WORLD BEER PRODUCTION

2020 – 2023

	Beer Production in Mio hl				+/- %		
	2020	2021	2022	2023*	20/21	21/22	22/23*
Germany	87.0	85.4	87.8	88.5	- 1.8	+ 2.8	+ 0.8
Russia	79.5	81.6	70.4	70.4	+ 2.6	- 13.7	+ 0.0
Spain	34.7	38.1	41.1	42.0	+ 9.8	+ 7.9	+ 2.2
England	45.0	40.6	39.7	39.7	- 9.8	- 2.2	+ 0.0
Poland	38.4	38.2	37.9	38.0	- 0.5	- 0.8	+ 0.3
Netherlands	22.1	22.1	26.0	26.0	+ 0.0	+ 17.6	+ 0.0
Belgium	23.5	25.1	23.3	23.0	+ 6.8	- 7.2	- 1.3
Czechia	18.5	19.3	20.6	20.6	+ 4.3	+ 6.7	+ 0.0
France	20.7	22.1	20.0	20.0	+ 6.8	- 9.5	+ 0.0
Italy	16.2	16.6	18.0	18.0	+ 2.5	+ 8.4	+ 0.0
Romania	16.8	16.6	16.1	16.0	- 1.2	- 3.0	- 0.6
Austria	9.6	9.9	10.4	10.1	+ 3.1	+ 5.1	- 2.9
Turkey	8.7	9.3	9.5	9.5	+ 6.9	+ 2.2	+ 0.0
Ireland	6.7	7.5	8.0	8.0	+ 11.9	+ 6.7	+ 0.0
Portugal	6.6	6.8	6.7	6.5	+ 3.0	- 1.5	- 3.0
Denmark	5.7	5.9	6.2	6.3	+ 3.5	+ 5.1	+ 1.6
Hungary	5.4	5.6	5.8	5.8	+ 3.7	+ 3.6	+ 0.0
Ukraine	18.0	17.0	6.0	5.5	- 5.6	- 64.7	- 8.3
Greece	3.0	3.4	5.6	5.2	+ 13.3	+ 64.7	- 7.1
Bulgaria	4.6	4.9	4.9	4.9	+ 6.5	+ 0.0	+ 0.0
Sweden	4.6	4.4	4.2	4.4	- 4.3	- 4.5	+ 4.8
Finland	3.4	3.5	3.7	3.8	+ 2.9	+ 5.7	+ 2.7
Croatia	3.0	3.3	3.4	3.4	+ 10.0	+ 3.0	+ 0.0
Norway	2.5	2.8	3.3	3.4	+ 12.0	+ 17.9	+ 3.0
Slovakia	2.1	3.4	3.3	3.3	+ 61.9	- 2.9	+ 0.0
Latvia	3.2	3.3	3.0	2.9	+ 3.1	- 9.1	- 3.3
Switzerland	3.4	2.3	2.7	2.7	- 32.4	+ 17.4	+ 0.0
Slovenia	1.9	2.0	2.0	2.0	+ 5.3	+ 0.0	+ 0.0
Estonia	1.3	1.4	1.2	1.2	+ 7.7	- 14.3	+ 0.0
Lithuania	0.7	1.0	0.8	0.8	+ 42.9	- 20.0	+ 0.0
Albania	0.6	0.6	0.7	0.7	+ 0.0	+ 16.7	+ 0.0
Cyprus	0.4	0.3	0.4	0.4	- 25.0	+ 33.3	+ 0.0
Luxembourg	0.3	0.2	0.3	0.3	- 33.3	+ 50.0	+ 0.0
Malta	0.2	0.2	0.2	0.2	+ 0.0	+ 0.0	+ 0.0
Europe rest	12.5	13.8	11.1	11.5	+ 10.4	- 19.6	+ 3.6
Europe total	**510.8**	**518.5**	**504.3**	**505.0**	**+ 1.5**	**- 2.7**	**+ 0.1**
USA	210.0	219.5	213.0	211.0	+ 4.5	- 3.0	- 0.9
Brazil	135.0	139.0	143.0	142.0	+ 3.0	+ 2.9	- 0.7
Mexico	112.0	120.0	126.0	128.0	+ 7.1	+ 5.0	+ 1.6
Colombia	22.0	22.0	23.5	23.6	+ 0.0	+ 6.8	+ 0.4
Canada	21.8	21.8	22.6	22.5	+ 0.0	+ 3.7	- 0.4
Argentina	19.0	20.0	19.8	19.7	+ 5.3	- 1.0	- 0.5
Peru	14.0	14.8	14.8	14.8	+ 5.7	+ 0.0	+ 0.0
Chile	8.6	8.7	8.6	8.5	+ 1.2	- 1.1	- 1.2
Equador	5.3	5.5	5.5	5.5	+ 3.8	+ 0.0	+ 0.0
Dominican Rep.	4.9	5.0	5.0	5.0	+ 2.0	+ 0.0	+ 0.0
Bolivia	3.8	3.8	3.8	3.8	+ 0.0	+ 0.0	+ 0.0
Panama	3.3	3.3	3.3	3.3	+ 0.0	+ 0.0	+ 0.0
Paraguay	3.1	3.3	3.3	3.3	+ 6.5	+ 0.0	+ 0.0
Cuba	3.1	3.1	3.1	3.1	+ 0.0	+ 0.0	+ 0.0
Guatemala	2.0	2.4	2.6	2.5	+ 20.0	+ 8.3	- 3.8
Venezuela	1.8	2.0	2.2	2.2	+ 11.1	+ 10.0	+ 0.0
Honduras	2.1	2.1	2.1	2.1	+ 1.0	- 0.9	+ 0.0
Costa Rica	1.7	1.9	2.0	2.0	+ 11.8	+ 5.3	+ 0.0
El Salvador	1.5	1.6	1.6	1.6	+ 6.7	+ 0.0	+ 0.0
Nicaragua	1.4	1.4	1.6	1.6	+ 0.0	+ 14.3	+ 0.0
Uruguay	1.1	1.1	1.2	1.2	+ 0.0	+ 9.1	+ 0.0

→

*Estimate

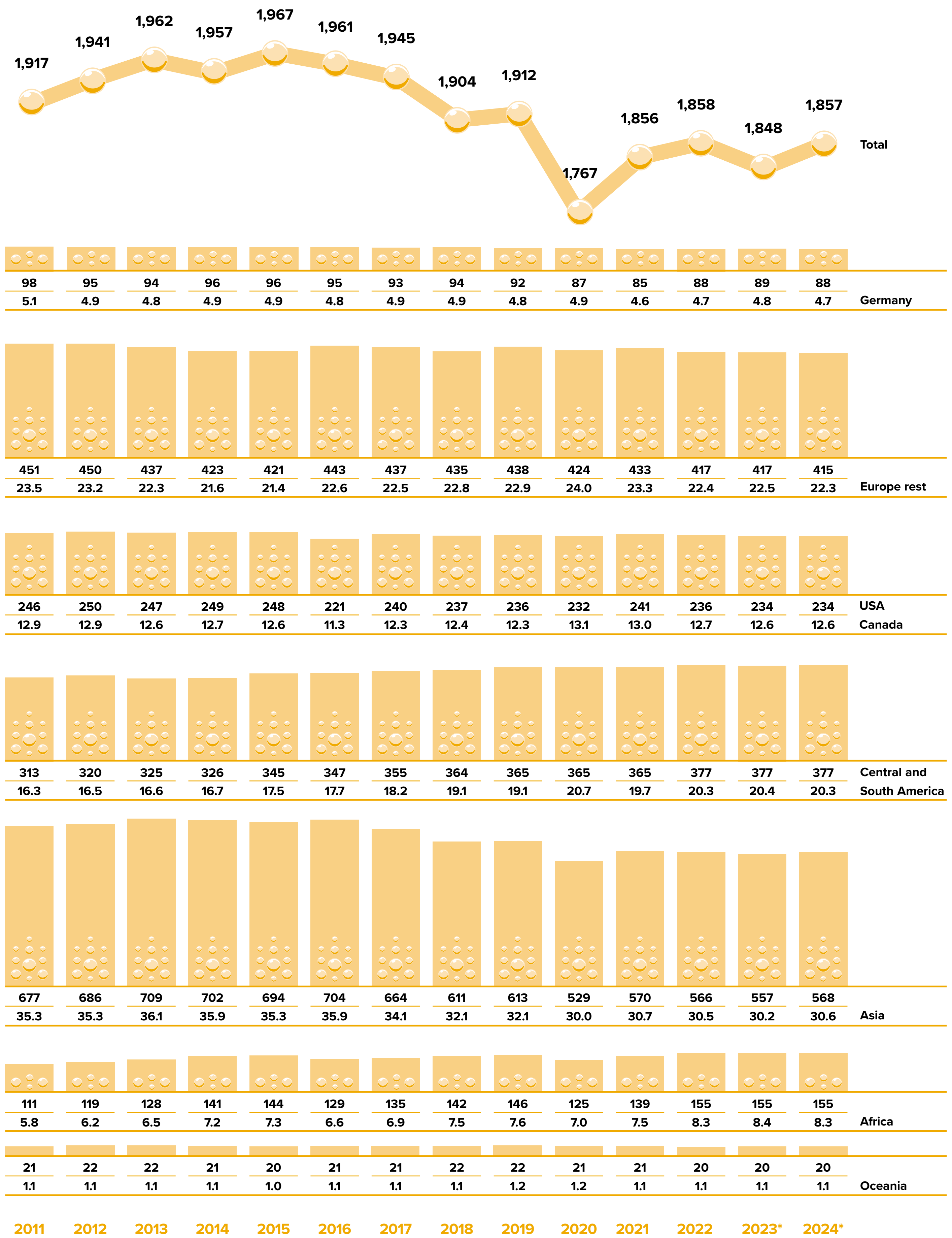
	Beer Production in Mio hl				+/- %		
	2020	2021	2022	2023*	20/21	21/22	22/23*
→ Trinidad	1.0	1.0	1.0	1.0	+ 0.0	+ 0.0	+ 0.0
Puerto Rico	0.7	0.7	0.7	0.7	+ 0.0	+ 0.0	+ 0.0
Jamaica	1.0	0.6	0.6	0.6	- 40.0	+ 0.0	+ 0.0
America rest	1.4	2.0	1.2	1.1	+ 42.9	- 40.0	- 8.3
America total	**581.6**	**606.6**	**612.1**	**610.7**	**+ 4.3**	**+ 0.9**	**- 0.2**
P.R.China	329.9	365.3	356.9	355.0	+ 10.7	- 2.3	- 0.5
Japan	44.1	45.1	43.0	44.0	+ 2.3	- 4.7	+ 2.3
Vietnam	38.0	42.3	40.1	31.6	+ 11.3	- 5.2	- 21.2
India	19.0	16.2	23.0	23.8	- 14.7	+ 42.0	+ 3.5
Thailand	17.0	18.9	21.0	21.8	+ 11.2	+ 11.1	+ 3.8
South Korea	16.4	13.2	17.8	18.1	- 19.5	+ 34.8	+ 1.7
Philippines	18.5	18.3	17.6	16.6	- 1.1	- 3.8	- 5.7
Cambodia	11.6	13.8	13.5	14.0	+ 19.0	- 2.2	+ 3.7
Taiwan	4.7	5.1	5.2	5.2	+ 8.5	+ 2.0	+ 0.0
Laos	4.0	4.6	4.9	4.7	+ 15.0	+ 6.5	- 4.1
Indonesia	1.6	1.8	2.8	3.1	+ 12.5	+ 55.6	+ 10.7
Myanmar	4.1	3.1	3.4	3.0	- 24.4	+ 9.7	- 11.8
Malaysia	2.7	2.7	2.7	2.4	+ 0.0	+ 0.0	- 11.1
Nepal	1.1	1.5	2.1	2.0	+ 36.4	+ 40.0	- 4.8
Singapur	1.4	1.8	1.9	2.0	+ 28.6	+ 5.6	+ 5.3
Israel	1.2	1.3	1.3	1.3	+ 8.3	+ 0.0	+ 0.0
Sri Lanka	1.2	1.3	1.3	1.2	+ 8.3	+ 0.0	- 7.7
Mongolia	0.6	0.7	0.8	0.8	+ 16.7	+ 14.3	+ 0.0
Lebanon	0.2	0.2	0.2	0.3	+ 0.0	+ 0.0	+ 50.0
Jordan	0.1	0.1	0.2	0.2	+ 0.0	+ 100.0	+ 0.0
Pakistan	0.1	0.1	0.2	0.2	+ 0.0	+ 100.0	+ 0.0
Asia rest	11.9	13.0	6.5	6.0	+ 9.2	- 50.0	- 7.7
Asia total	**529.4**	**570.4**	**566.4**	**557.3**	**+ 7.7**	**- 0.7**	**- 1.6**
South Africa	26.0	31.0	32.5	32.3	+ 19.2	+ 4.8	- 0.6
Nigeria	16.5	19.4	19.6	19.5	+ 17.6	+ 1.0	- 0.5
Angola	9.0	11.0	11.0	11.0	+ 22.2	+ 0.0	+ 0.0
Ethiopia	10.6	9.0	10.0	10.0	- 15.1	+ 11.1	+ 0.0
Cameroon	6.5	7.2	7.5	7.5	+ 10.8	+ 4.2	+ 0.0
Zaire	4.3	4.7	4.9	4.9	+ 9.3	+ 4.3	+ 0.0
Tanzania	3.9	4.5	4.6	4.6	+ 15.4	+ 2.2	+ 0.0
Kenya	4.5	4.3	4.4	4.4	- 4.4	+ 2.3	+ 0.0
Uganda	3.0	3.6	3.8	3.8	+ 20.0	+ 5.6	+ 0.0
Mozambique	3.0	3.6	3.7	3.7	+ 20.0	+ 2.8	+ 0.0
Ghana	1.5	3.0	3.3	3.3	+ 100.0	+ 10.0	+ 0.0
Ivory Coast	2.8	3.3	3.2	3.2	+ 17.9	- 3.0	+ 0.0
Algeria	1.4	1.4	2.3	3.0	+ 0.0	+ 64.3	+ 30.4
Zambia	3.3	2.8	2.3	2.3	- 15.2	- 17.9	+ 0.0
Zimbabwe	2.2	2.2	2.1	2.1	+ 0.0	- 4.5	+ 0.0
Tunisia	1.9	1.9	1.9	1.9	+ 0.0	+ 0.0	+ 0.0
Morocco	0.8	0.8	1.9	1.9	+ 0.0	+ 137.5	+ 0.0
Madagascar	1.6	1.1	1.2	1.2	- 31.3	+ 9.1	+ 0.0
Egypt	0.9	0.9	0.9	0.9	+ 0.0	+ 0.0	+ 0.0
Mauritius	0.4	0.4	0.4	0.4	+ 0.0	+ 0.0	+ 0.0
Africa rest	20.4	22.8	33.4	33.4	+ 11.8	+ 46.5	+ 0.0
Africa total	**124.5**	**138.9**	**154.9**	**155.3**	**+ 11.6**	**+ 11.5**	**+ 0.3**
Australia	16.6	16.8	17.0	17.0	+ 1.2	+ 1.2	+ 0.0
New Zealand	2.7	2.9	2.2	2.0	+ 7.4	- 24.1	- 9.1
Oceania rest	1.5	1.4	1.2	1.1	- 6.7	- 14.3	- 8.3
Oceania total	**20.8**	**21.1**	**20.4**	**20.1**	**+ 1.4**	**- 3.3**	**- 1.5**
World total	**1,767.1**	**1,855.5**	**1,858.1**	**1,848.4**	**+ 5.0**	**+ 0.1**	**- 0.5**

*Estimate

WORLD BEER PRODUCTION

2011 – 2024

(Mio hl and % share)

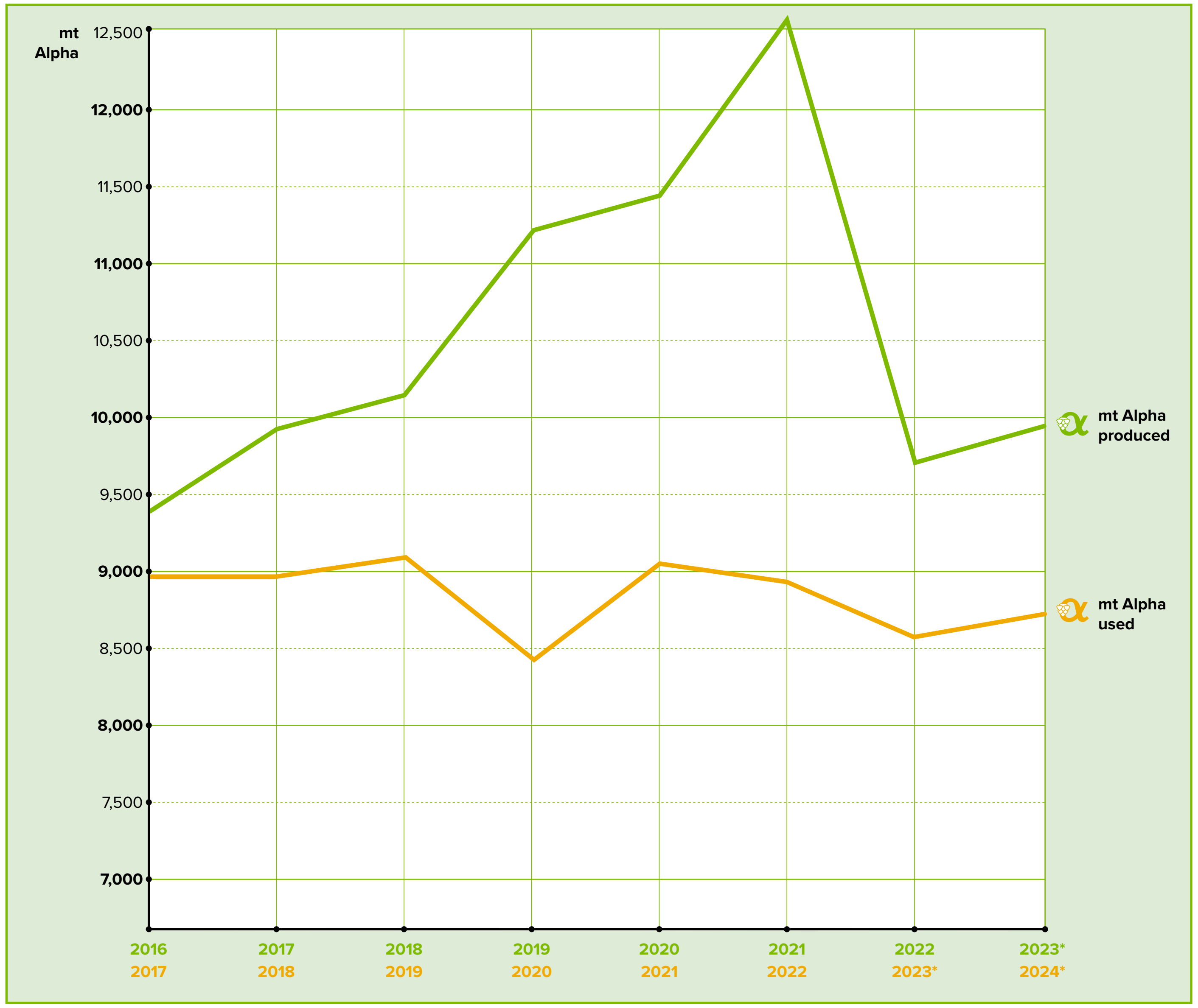


*Estimate

WORLD HOP ALPHA-ACID SUPPLY AND DEMAND

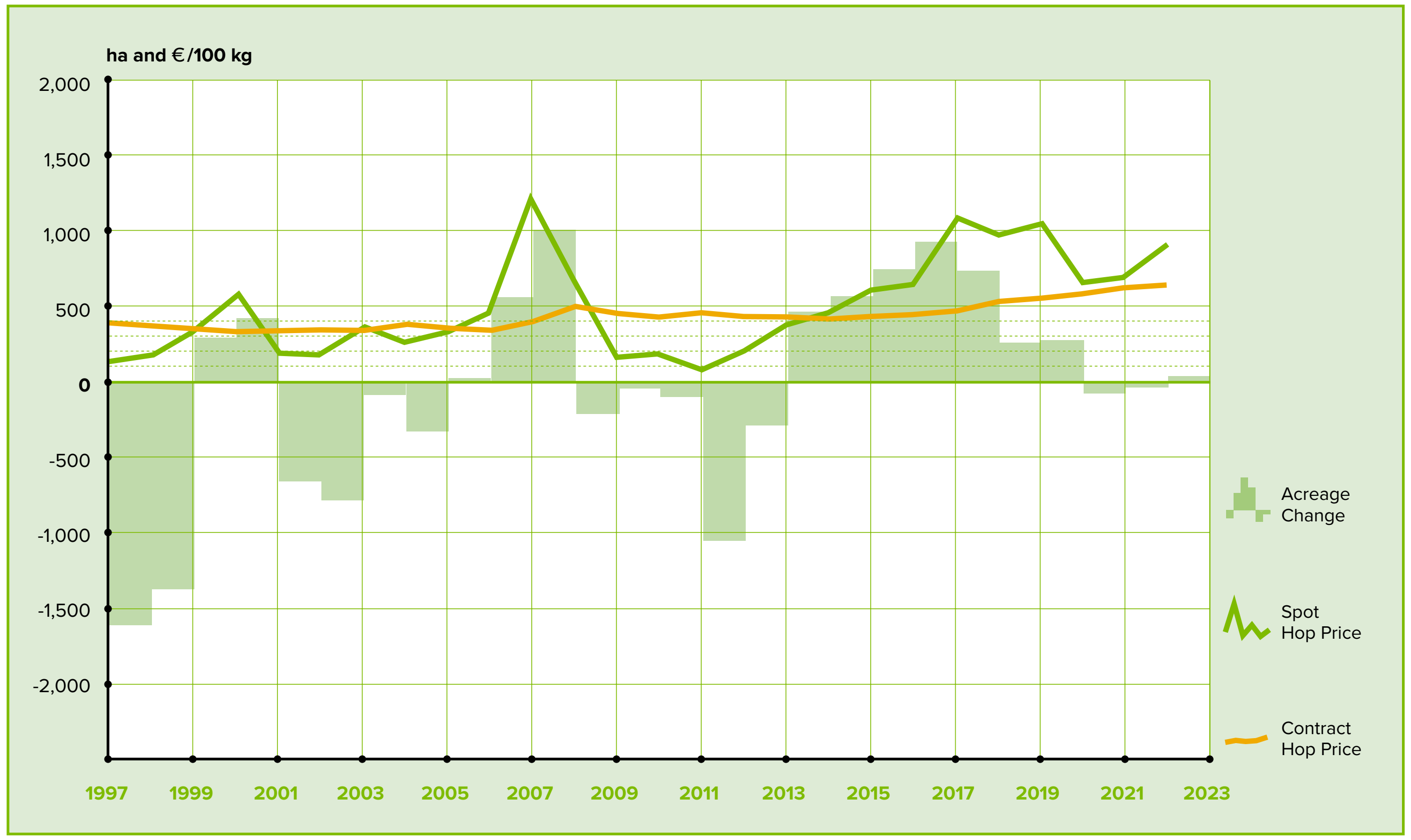
2016 – 2023

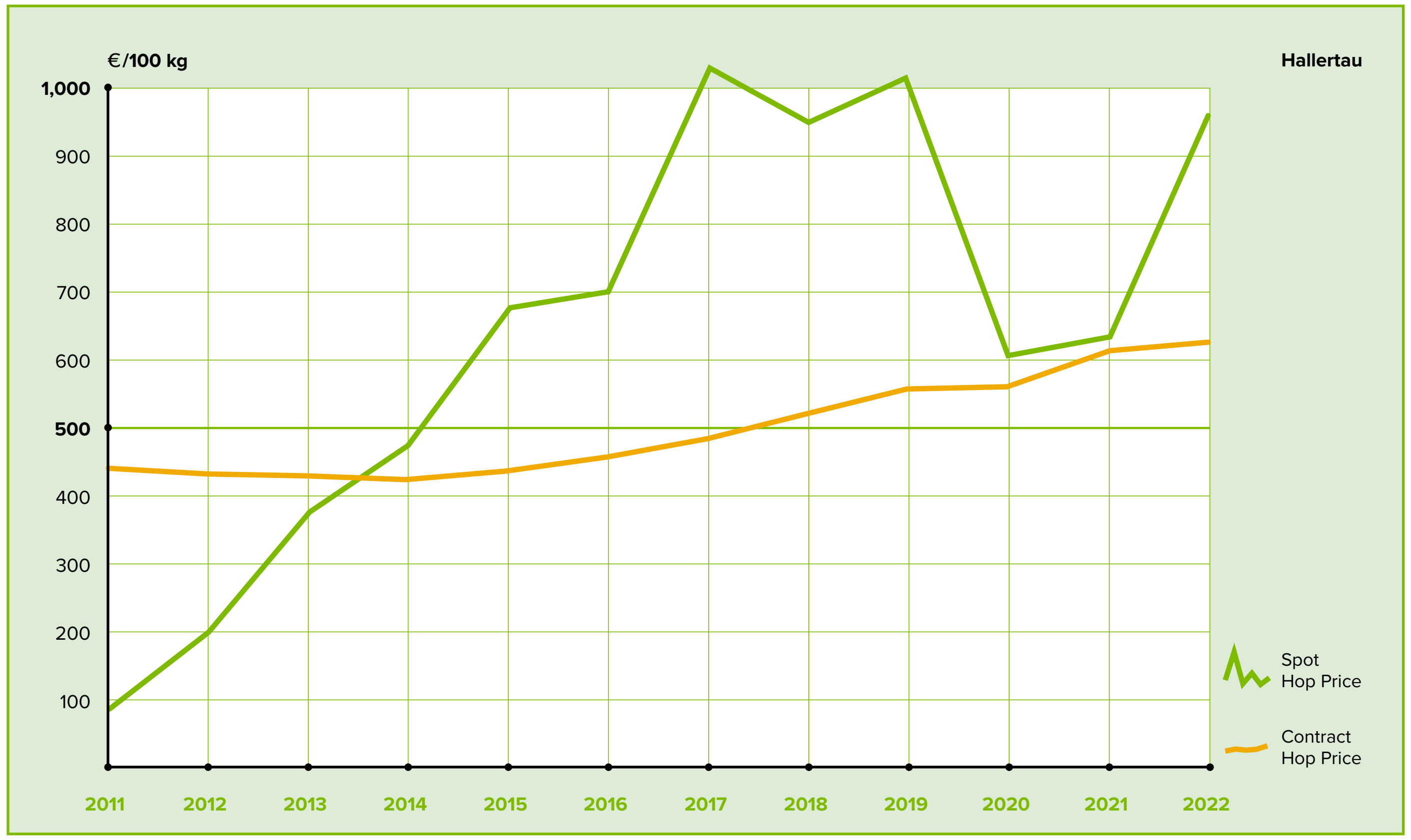
Production		Beer Production		Alpha Dosage	Alpha Usage	Annual Balance
	(mt Alpha)		(Mio hl)	(g Alpha / hl)	(mt Alpha)	(mt Alpha)
2016	9,373	2017	1,945	4.6	8,947	426
2017	9,901	2018	1,904	4.7	8,949	952
2018	10,123	2019	1,912	4.9	9,369	754
2019	11,316	2020	1,767	4.8	8,482	2,834
2020	11,424	2021	1,856	4.9	9,094	2,330
2021	12,567	2022	1,858	4.8	8,918	3,649
2022	9,702	2023*	1,848	4.7	8,686	1,016
2023*	9,920	2024*	1,857	4.7	8,728	1,192



*Estimate

HOP CYCLE





HOP MARKET REVIEW AND OUTLOOK

RETROSPECTIVE – CROP 2022

The climatic conditions in Europe were very challenging in all growing areas. Dry periods and high temperatures led to a crop that was below average in both tonnage and alpha content. The total 2022 European crop of 48,811 MT was 27% less than 2021 on nearly the same acreage of 32,247 hectares.

In the Czech Republic the drop-off from the record crop of 2021 was even more pronounced. The crop of 4,452 MT represented a 50% reduction from the prior year's result.

In USA the 46,087 MT crop was also below average due to challenging growing conditions such as a cool spring and a range of disease pressures. Worldwide the crop of 106,599 MT was 24,000 MT less than in 2021 on approximately 850 fewer hectares.

The average alpha acid content in 2022 was 9.1%, which was 0.50 points less than in 2021. The total alpha acid production of 9,702 MT stood to supply an estimated demand of 8,686 MT for an expected 2023 beer production of 1,848 million hectoliters. This means there was a calculated surplus of 1,016 MT alpha despite the poor crop. The surplus was produced after four other consecutive years of excess production, which also meant that most variety-based shortages were addressed from adjustments to existing inventories and with crop transfers.

LOOK AHEAD – CROP 2023

Crop 2022 confirmed that even with a poor harvest, there were enough hops either harvested or in inventory to meet brewer demand. Several craft beer-focused varieties were in such oversupply that their acreage was meaningfully reduced by 2,100 hectares for crop 2023. At the same time, some of that reduction was converted to bitter hops. This reflects both risk management by breweries in the face of continued poor crops in Germany as well as the need of growers to maintain a volume of business to serve the overhead associated with their recently expanded picking and conditioning facilities.

In Europe, crop 2023 was again characterized by poor growing conditions and a lack of irrigation systems. In the German, Czech, French and Spanish growing areas it was quite simply too warm and dry for a normal crop to develop. In England the weather both moderated and provided rainfall in July and August so the crop was more or less normal.

The German crop of 40,214 MT, with yields averaging below 2 MT/HA, was well below long-term averages. These low yields were further impacted by lower than usual alpha levels across most varieties. The alpha clause was triggered for Hallertau Mittlefrueh, Tettnanger, Saaz, Saphir, Opal, Perle, Tradition and Northern Brewer. We are working together with brewers to manage these instances.

The overall European crop of 57,580 MT was also less than in recent years.

The 2023 USA crop produced a good result, with 47,200 MT and a yield of nearly 2.1 MT/HA. Yields were up but of course the increase in bitter hop acreage had a decisive impact on that data.

The crops in Argentina, Australia, Japan, New Zealand, South Africa and the PR China were all more or less normal in 2023.

The total 2023 world crop of 117,000 MT represents an increase of nearly 10% over 2022. Nevertheless, the average alpha value dropped from 9.1% to 8.5%.

In 2023 beer production dropped and is projected to follow a similar flat to increasing trend in 2024. There are many factors that have contributed to this decline. All beer sales were hit by the pressure of inflation on consumers' disposable income, but on-premise sales have been disproportionally affected because many bars and restaurants still have not reopened and labor shortages in others have limited opening hours. Furthermore, consumers remain fickle and tend to jump around between products and flavors much more than in the past. The emergence of canned cocktails with alcohol levels similar to beer has been the latest trend to hurt beer sales. These products are generally produced by the distilling industry, which has gained tremendously against beer over the past twenty years. Nevertheless, their recent gains are not in their core products but in the canned segment, which is where the beer industry must innovate in its fight to regain market share. Innovation will come in the form of packaging and point of sale efforts, as well as with new hop flavors and non alcohol beers.

To calculate this year's alpha balance, we are assuming a worldwide alpha dosage of 4.7 grams per hectoliter. If 1,857 MHL are brewed in 2024, the alpha demand would be 8,728 MT. On paper this means that crop 2023's result of 9,920 MT alpha produced a surplus of 1,192 MT alpha. While there may be some smaller varieties that are in tighter supply, the general situation is oversupply. Nevertheless, crop 2023 is highly contracted and the spot market is very limited. Future crop contracts provide brewers the ability to minimize the impact of crop and price fluctuations, and the past two years are perfect examples of that.

The weak production of many long-time hop varieties coupled with ever-stricter laws against using several long-established plant protection materials means that brewers will have to transition to newer hop varieties. Hopsteiner has focused on breeding many varieties that can be categorized as successors to existing ones. The transition to newer, more disease and heat resistant varieties will provide both brewers and growers yield and cost stability into the future. These varieties will also meet many aspects of both sustainability initiatives and food safety measures.

Hopsteiner®

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

15A Henley Business Park, Pirbright Road,
Normandy, Surrey GU3 2DX, 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.de