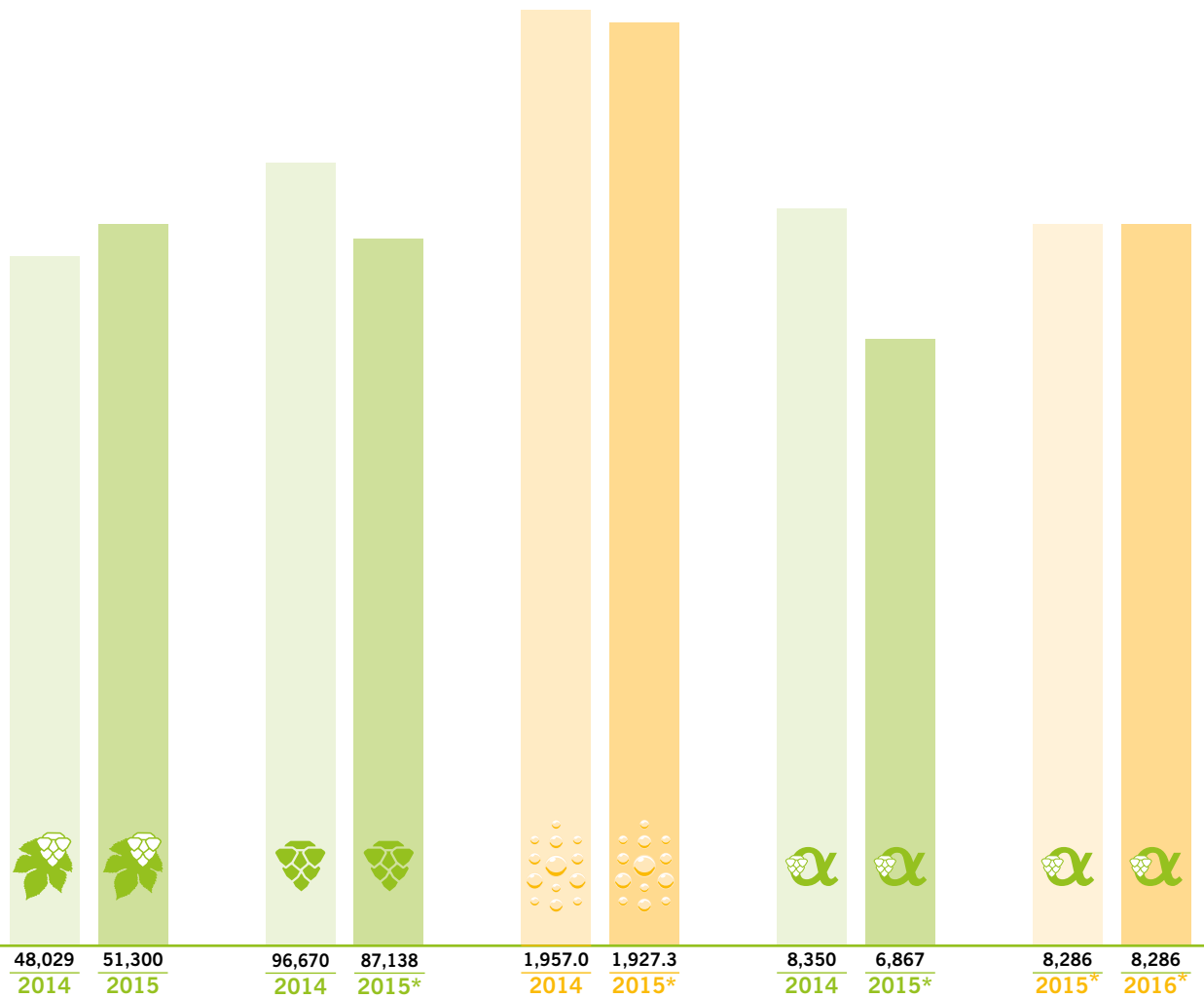


2015
GUIDELINES
FOR HOP BUYING

	World Hop Acreage	World Hop Crop	World Beer Production	World Alpha Acids Production	World Alpha Acids Demand
	(ha)	(mt)	(Mio. hl)	(mt)	(mt)
2013	46,288	82,631	1,961.5	7,211	8,240
	- 0.7 %	- 4.7 %	+ 1.1 %	- 9.4 %	+ 1.1 %
2014	48,029	96,670	1,957.0	8,350	8,415
	+ 3.8 %	+ 17.0 %	- 0.2 %	+ 15.8 %	+ 2.1 %
2015	51,300	87,138*	1,927.3*	6,867*	8,286*
	+ 6.8 %	- 9.9 %*	- 1.5 %*	- 17.8 %*	- 1.5 %*
2016	-	-	1,926.6*	-	8,286*
	-	-	+ 0.0 %*	-	+ 0.0 %*



*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 production of crop years 2012-2014 did not meet the theoretical alpha-acid requirements for the successive brewing years.

Continued double-digit growth of the craft brewing sector and hop-forward beer styles have played a major role in balancing worldwide supply and demand for hops.

The 2015 crop results in the main European hop growing areas are well below average as a result of hot and dry weather conditions during the peak growing months. Similar conditions existed in USA. The new crop will not meet the needs of the brewing industry. This means that there will be shortages of certain crop 2015 hop varieties, and a further tightening of the overall supply-demand equation.

We trust that this hop market information update for the 2015 crop helps your decision-making process.

Please do not hesitate to contact the Hopsteiner sales team if you have any questions.

“

November 2015
S. S. Steiner, Inc.
Simon H. Steiner, Hopfen, GmbH
Steiner Hops Limited



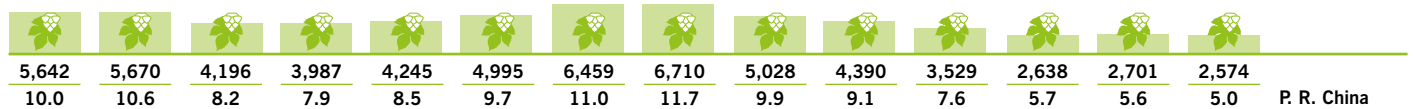
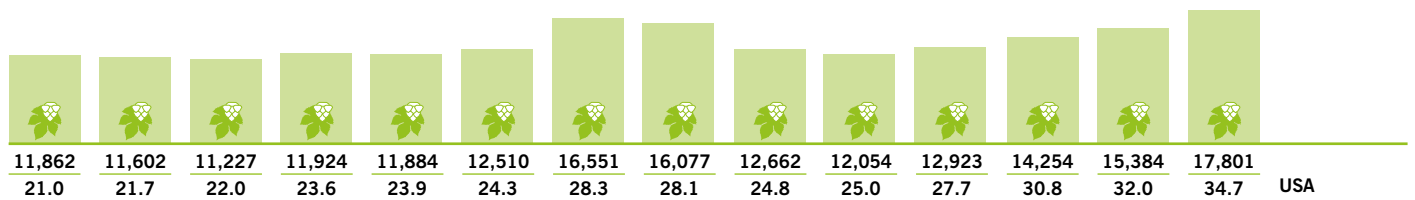
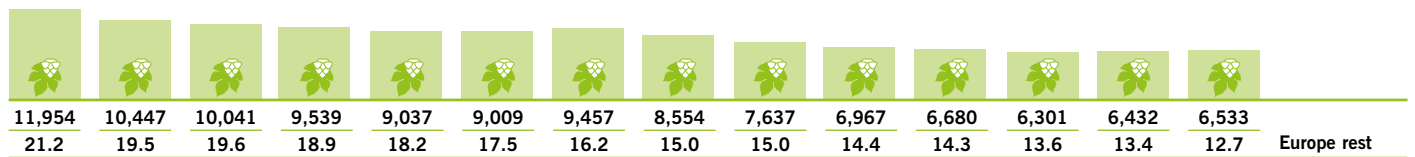
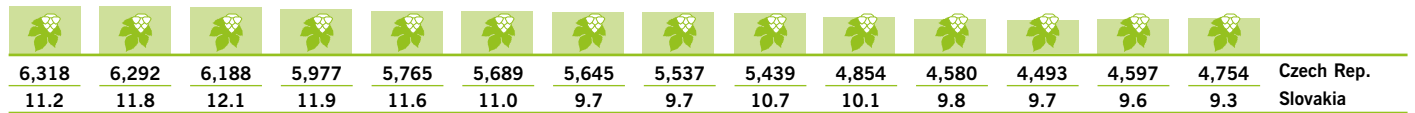
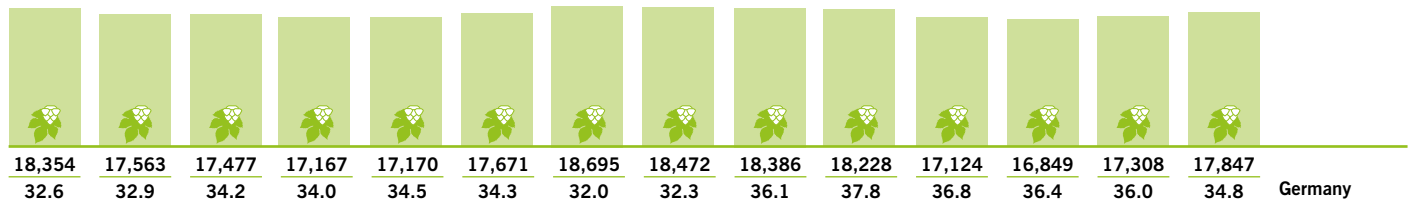
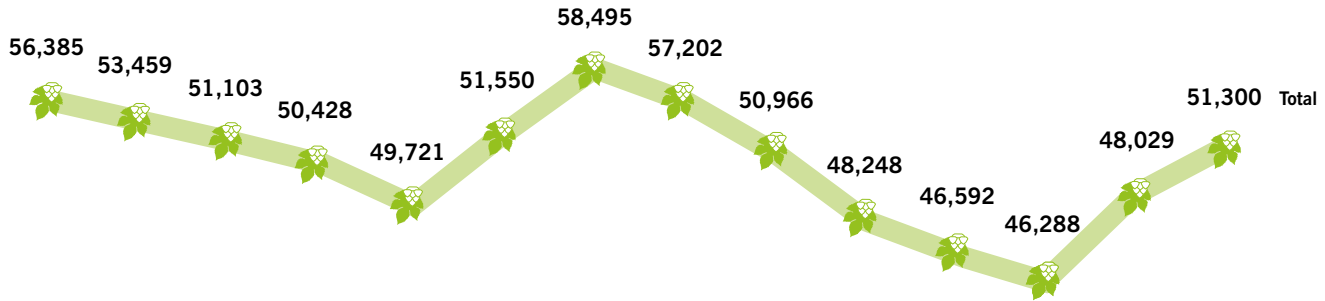
- *Hallertauer Hopfenveredelungs-
gesellschaft mbH
Au, Hallertau, Pelletwerk*
- *Hallertauer Hopfenveredelungs-
gesellschaft mbH
Mainburg, Hallertau,
Ethanol- und CO₂-Extraktion*
- *Hops Extract Corporation
of America, Yakima, Washington,
CO₂-Extraktion*
- *Golden Gate Hop Ranches Inc.
Yakima, Washington,
Hopfenanbaubetrieb*

Hop Acreage 2012 – 2015

	Acreage in ha				+/- %		
	2012	2013	2014	2015	12/13	13/14	14/15
Hallertauer	716	687	623	557	- 4.1	- 9.3	- 10.6
Hersbrucker	782	843	919	950	+ 7.8	+ 9.0	+ 3.4
Perle	2,965	2,813	2,857	2,868	- 5.1	+ 1.6	+ 0.4
Spalter Select	448	408	434	443	- 8.9	+ 6.4	+ 2.1
Tradition	2,624	2,537	2,696	2,790	- 3.3	+ 6.3	+ 3.5
Saphir	237	308	360	387	+ 30.0	+ 16.9	+ 7.5
Northern Brewer	190	184	173	150	- 3.2	- 6.0	- 13.3
Magnum	2,696	2,360	1,934	1,671	- 12.5	- 18.1	- 13.6
Nugget	179	156	145	137	- 12.8	- 7.1	- 5.5
Taurus	795	682	564	440	- 14.2	- 17.3	- 22.0
Herkules	2,457	2,869	3,345	3,836	+ 16.8	+ 16.6	+ 14.7
Rest	170	238	417	681	+ 40.0	+ 75.2	+ 63.3
Hallertau	14,258	14,086	14,467	14,910	- 1.2	+ 2.7	+ 3.1
Elbe-Saale	1,284	1,186	1,265	1,325	- 7.6	+ 6.7	+ 4.7
Tettngang	1,215	1,208	1,209	1,237	- 0.6	+ 0.1	+ 2.3
Spalt	348	350	348	355	+ 0.6	- 0.6	+ 2.0
Rest	20	20	19	20	+ 0.0	- 5.0	+ 5.3
Germany total	17,124	16,849	17,308	17,847	- 1.6	+ 2.7	+ 3.1
Austria	239	246	247	249	+ 2.9	+ 0.4	+ 0.8
Belgium	189	158	148	148	- 16.4	- 6.3	+ 0.0
Bulgaria	150	105	14	14	- 30.0	- 86.7	+ 0.0
Czech Rep.	4,366	4,319	4,460	4,617	- 1.1	+ 3.3	+ 3.5
England	1,051	982	1,051	940	- 6.6	+ 7.0	- 10.6
France	439	381	431	440	- 13.2	+ 13.1	+ 2.1
Poland	1,510	1,357	1,410	1,424	- 10.1	+ 3.9	+ 1.0
Romania	245	250	250	250	+ 2.0	+ 0.0	+ 0.0
Russia	158	158	158	218	+ 0.0	+ 0.0	+ 38.0
Slovakia	214	174	137	137	- 18.7	- 21.3	+ 0.0
Slovenia	1,160	1,165	1,296	1,403	+ 0.4	+ 11.2	+ 8.3
Spain	540	485	520	534	- 10.2	+ 7.2	+ 2.7
Turkey	350	350	350	350	+ 0.0	+ 0.0	+ 0.0
Ukraine	465	469	362	369	+ 0.9	- 22.8	+ 1.9
Rest	184	195	195	194	+ 6.0	+ 0.0	- 0.5
Europe total	28,384	27,643	28,337	29,134	- 2.6	+ 2.5	+ 2.8
Apollo	354	404	399	402	+ 14.1	- 1.2	+ 0.8
Bravo	214	241	287	295	+ 12.6	+ 19.1	+ 2.8
Cascade	1,230	2,140	2,679	2,753	+ 74.0	+ 25.2	+ 2.8
Centennial	682	880	1,357	1,908	+ 29.0	+ 54.2	+ 40.6
Chinook	492	704	664	682	+ 43.1	- 5.7	+ 2.7
Col. / Tom. / Zeus	2,337	2,493	2,337	2,156	+ 6.7	- 6.3	- 7.7
Nugget	1,009	834	659	662	- 17.3	- 21.0	+ 0.5
Summit	850	1,151	1,021	683	+ 35.4	- 11.3	- 33.1
Super Galena	459	491	361	206	+ 7.0	- 26.5	- 42.9
Willamette	646	435	469	573	- 32.7	+ 7.8	+ 22.2
Rest	4,650	4,481	5,151	7,481	- 3.6	+ 15.0	+ 45.2
USA total	12,923	14,254	15,384	17,801	+ 10.3	+ 7.9	+ 15.7
Argentina	188	195	195	195	+ 3.7	+ 0.0	+ 0.0
Australia	452	449	408	488	- 0.7	- 9.1	+ 19.6
Japan	179	179	154	154	+ 0.0	- 14.0	+ 0.0
New Zealand	385	378	370	388	- 1.8	- 2.1	+ 4.9
P.R.China	3,529	2,638	2,701	2,574	- 25.2	+ 2.4	- 4.7
South Africa	492	492	420	402	+ 0.0	- 14.6	- 4.3
Rest	60	60	60	164	+ 0.0	+ 0.0	+ 173.3
World total	46,592	46,288	48,029	51,300	- 0.7	+ 3.8	+ 6.8

Hop Acreage 2002 – 2015

(ha and % share)



2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

Crop Quantities and Average Yields 2012 – 2015

	Crop Quantities in mt				+/- %			Ø Yields in mt / ha			
	2012	2013	2014	2015*	12/13	13/14	14/15*	2012	2013	2014	2015*
Hallertauer	948.2	699.9	1,026.7	615.0	- 26.2	+ 46.7	- 40.1	1.32	1.02	1.65	1.10
Hersbrucker	1,361.3	1,112.8	1,900.6	1,350.0	- 18.3	+ 70.8	- 29.0	1.74	1.32	2.07	1.42
Perle	5,536.0	3,901.5	6,103.0	3,900.0	- 29.5	+ 56.4	- 36.1	1.87	1.39	2.14	1.36
Spalter Select	883.0	638.5	957.2	625.0	- 27.7	+ 49.9	- 34.7	1.97	1.56	2.21	1.41
Tradition	4,868.8	3,353.9	5,521.4	3,875.0	- 31.1	+ 64.6	- 29.8	1.86	1.32	2.05	1.39
Saphir	474.1	359.7	734.3	540.0	- 24.1	+ 104.1	- 26.5	2.00	1.17	2.04	1.40
Northern Brewer	346.8	208.0	349.7	180.0	- 40.0	+ 68.1	- 48.5	1.83	1.13	2.02	1.20
Magnum	5,643.0	4,778.3	4,029.2	2,875.0	- 15.3	- 15.7	- 28.6	2.09	2.02	2.08	1.72
Nugget	421.2	298.8	373.7	250.0	- 29.1	+ 25.1	- 33.1	2.35	1.92	2.58	1.82
Taurus	1,587.1	1,088.7	1,253.7	690.0	- 31.4	+ 15.2	- 45.0	2.00	1.60	2.22	1.57
Herkules	7,442.3	6,376.4	10,290.7	8,050.0	- 14.3	+ 61.4	- 21.8	3.03	2.22	3.08	2.10
Others	282.2	261.2	632.9	850.0	- 7.4	+ 142.3	+ 34.3	1.66	1.10	1.52	1.25
Hallertau	29,794.1	23,077.7	33,173.1	23,800.0	- 22.5	+ 43.7	- 28.3	2.09	1.64	2.29	1.60
Elbe-Saale	2,546.1	2,508.6	2,567.9	2,300.0	- 1.5	+ 2.4	- 10.4	1.98	2.12	2.03	1.74
Tettngang	1,607.4	1,429.7	2,022.4	1,710.0	- 11.1	+ 41.5	- 15.4	1.32	1.18	1.67	1.38
Spalt	481.2	499.7	688.7	400.0	+ 3.8	+ 37.8	- 41.9	1.38	1.43	1.98	1.13
Rest	46.4	38.5	47.7	40.0	- 17.0	+ 23.9	- 16.1	2.32	1.93	2.51	2.00
Germany total	34,475.2	27,554.1	38,499.8	28,250.0	- 20.1	+ 39.7	- 26.6	2.01	1.64	2.22	1.58
Austria	446.0	410.0	491.0	456.0	- 8.1	+ 19.8	- 7.1	1.87	1.67	1.99	1.83
Belgium	235.0	211.0	187.0	234.0	- 10.2	- 11.4	+ 25.1	1.24	1.34	1.26	1.58
Bulgaria	183.0	180.0	30.0	26.0	- 1.6	- 83.3	- 13.3	1.22	1.71	2.14	1.86
Czech Rep.	4,338.1	5,329.8	6,202.0	4,348.7	+ 22.9	+ 16.4	- 29.9	0.99	1.23	1.39	0.94
England	1,459.0	1,235.0	1,455.0	1,300.0	- 15.4	+ 17.8	- 10.7	1.39	1.26	1.38	1.38
France	752.0	612.0	636.0	718.0	- 18.6	+ 3.9	+ 12.9	1.71	1.61	1.48	1.63
Poland	1,818.2	2,079.0	2,072.3	1,800.0	+ 14.3	- 0.3	- 13.1	1.20	1.53	1.47	1.26
Romania	106.0	181.0	172.0	264.0	+ 70.8	- 5.0	+ 53.5	0.43	0.72	0.69	1.06
Russia	162.0	162.0	162.0	300.0	+ 0.0	+ 0.0	+ 85.2	1.03	1.03	1.03	1.38
Slovakia	203.0	193.0	183.0	124.0	- 4.9	- 5.2	- 32.2	0.95	1.11	1.34	0.91
Slovenia	1,560.0	1,297.0	2,318.8	1,500.0	- 16.9	+ 78.8	- 35.3	1.34	1.11	1.79	1.07
Spain	1,028.0	854.0	933.0	1,027.0	- 16.9	+ 9.3	+ 10.1	1.90	1.76	1.79	1.92
Turkey	390.0	390.0	390.0	390.0	+ 0.0	+ 0.0	+ 0.0	1.11	1.11	1.11	1.11
Ukraine	454.0	520.0	436.0	480.0	+ 14.5	- 16.2	+ 10.1	0.98	1.11	1.20	1.30
Rest	302.0	302.0	294.7	296.0	+ 0.0	- 2.4	+ 0.4	1.64	1.55	1.51	1.53
Europe total	47,911.5	41,509.9	54,462.6	41,513.7	- 13.4	+ 31.2	- 23.8	1.69	1.50	1.92	1.42
Apollo	1,052.6	1,222.0	1,100.1	1,171.0	+ 16.1	- 10.0	+ 6.4	2.97	3.02	2.76	2.91
Bravo	633.9	806.0	880.7	925.0	+ 27.1	+ 9.3	+ 5.0	2.96	3.34	3.07	3.14
Cascade	2,547.6	3,944.0	5,262.4	6,172.0	+ 54.8	+ 33.4	+ 17.3	2.07	1.84	1.96	2.24
Centennial	1,075.5	1,497.0	1,977.6	2,566.0	+ 39.2	+ 32.1	+ 29.8	1.58	1.70	1.46	1.34
Chinook	936.6	1,540.0	1,328.9	1,529.0	+ 64.4	- 13.7	+ 15.1	1.90	2.19	2.00	2.24
Col./Tom./Zeus	6,136.0	7,853.0	7,244.6	6,767.0	+ 28.0	- 7.7	- 6.6	2.63	3.15	3.10	3.14
Nugget	2,187.3	1,898.0	1,413.4	1,483.0	- 13.2	- 25.5	+ 4.9	2.17	2.28	2.14	2.24
Summit	3,175.2	2,416.0	2,407.8	1,589.0	- 23.9	- 0.3	- 34.0	3.74	2.10	2.36	2.33
Super Galena	1,369.9	1,461.0	993.1	648.0	+ 6.7	- 32.0	- 34.7	2.98	2.98	2.75	3.15
Willamette	1,109.1	668.0	676.8	642.0	- 39.8	+ 1.3	- 5.1	1.72	1.54	1.44	1.12
Rest	7,558.5	8,149.0	8,918.0	12,792.0	+ 7.8	+ 9.4	+ 43.4	1.63	1.82	1.73	1.71
USA total	27,782.2	31,454.0	32,203.4	36,284.0	+ 13.2	+ 2.4	+ 12.7	2.15	2.21	2.09	2.04
Argentina	280.5	300.0	300.0	300.0	+ 7.0	+ 0.0	+ 0.0	1.49	1.54	1.54	1.54
Australia	1,092.6	1,146.0	1,079.0	1,201.0	+ 4.9	- 5.8	+ 11.3	2.42	2.55	2.64	2.46
Japan	345.0	335.0	300.0	300.0	- 2.9	- 10.4	+ 0.0	1.93	1.87	1.95	1.95
New Zealand	694.0	703.0	765.0	740.0	+ 1.3	+ 8.8	- 3.3	1.80	1.86	2.07	1.91
P.R.China	7,548.0	6,230.0	6,700.0	5,790.0	- 17.5	+ 7.5	- 13.6	2.14	2.36	2.48	2.25
South Africa	1,002.7	913.0	820.0	769.4	- 8.9	- 10.2	- 6.2	2.04	1.86	1.95	1.91
Rest	40.0	40.0	40.0	240.0	+ 0.0	+ 0.0	+ 500.0	0.67	0.67	0.67	1.46
World total	86,696.4	82,630.9	96,670.0	87,138.1	- 4.7	+ 17.0	- 9.9	1.86	1.79	2.01	1.70

World Hop Crop 2002 – 2015

(1.000 mt and % share)






*Estimate

Hopsteiner Laboratory Values 2012 – 2015

Alpha Content in %					Alpha Content in %				
Aroma Varieties	2012	2013	2014	2015	Bitter Varieties	2012	2013	2014	2015
Hersbrucker	3.0	1.9	2.1	2.3	Northern Brewer	9.9	6.6	9.7	5.4
Perle	8.1	5.4	8.0	4.5	Herkules	17.1	16.5	17.5	15.1
Tradition	6.7	5.0	5.8	4.7	Magnum	14.3	12.6	13.0	12.6
Select	5.1	3.3	4.7	3.2	Taurus	17.0	15.9	17.4	12.9
Tettnang	4.3	2.6	4.1	2.1	US Super Galena	15.5	15.3	15.4	15.4
Spalt	4.1	2.8	3.4	2.2	US Bravo	16.1	15.8	14.8	14.4
Saaz	3.8	2.9	2.9	2.1	US Nugget	13.5	14.0	13.8	14.4
Steirer Aurora	8.0	6.1	10.2	8.5	US Summit	16.5	17.0	16.8	16.2
Steirer Golding	3.2	2.2	5.1	3.2	US CTZ	15.5	15.8	15.9	15.6
US Cascade	6.5	6.8	5.8	6.6	Pride of Ringwood	8.8	9.1	8.9	9.0
US Willamette	4.6	5.0	5.0	5.2					
Dual Purpose	2012	2013	2014	2015					
US Centennial	10.5	10.3	9.8	9.9					

Worldwide use of Hops and Hop Products 2002 – 2015

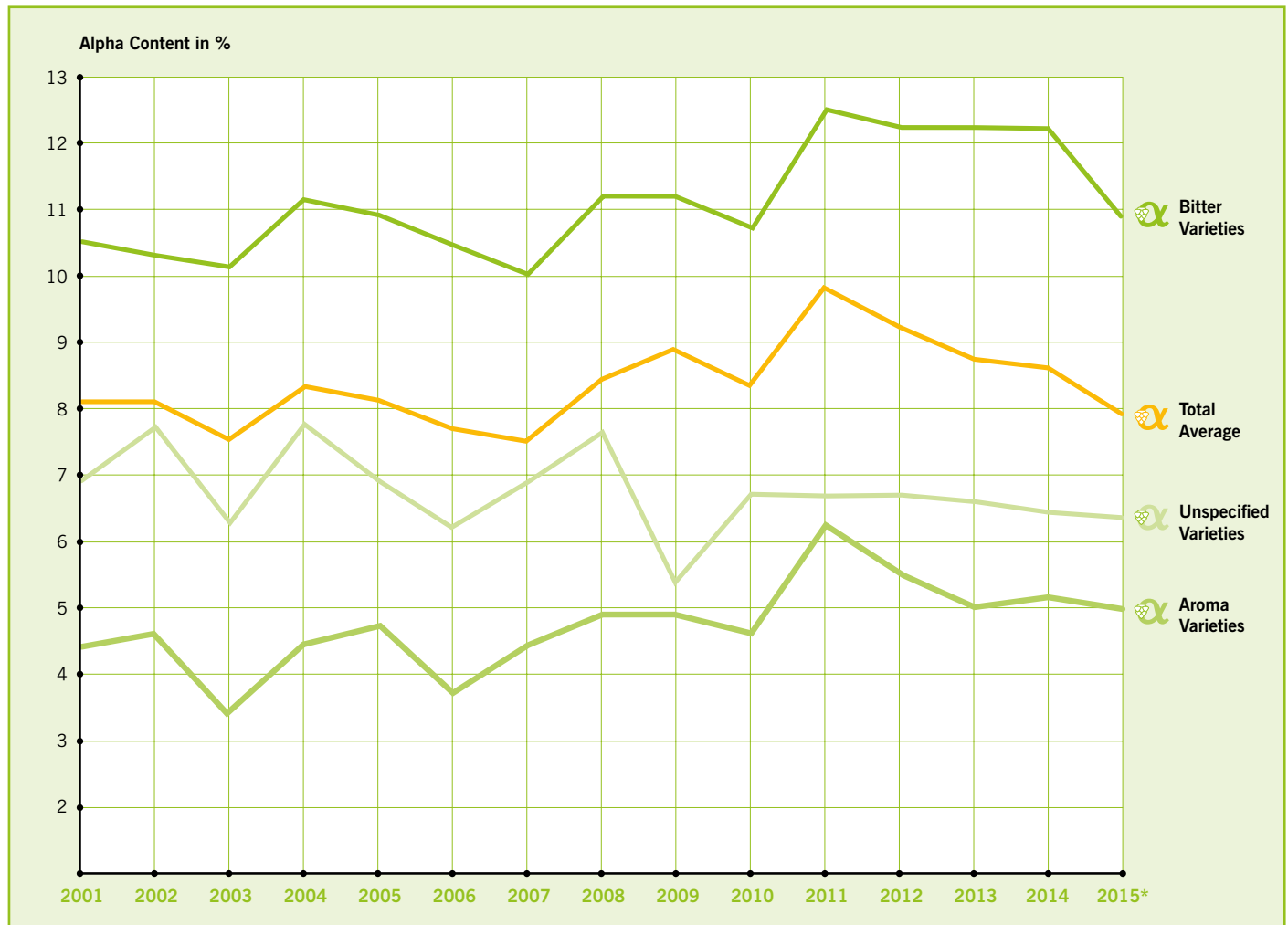
	Hops total		Pellets total		Extract total	
	(mt)		(mt)	 (% total)	(mt)	 (% total)
2002	97,130		53,400	55.0	28,500	29.3
2003	85,520		49,600	58.0	28,000	32.7
2004	91,132		56,800	62.3	28,600	31.4
2005	93,448		61,582	65.9	28,595	30.6
2006	85,266		56,361	66.1	26,177	30.7
2007	91,418		59,513	65.1	29,345	32.1
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*	87,138		58,555	67.2	26,141	30.0

World Alpha Acids Productions 2012 – 2015

Total Crop Quantities in mt					% share				
	2012	2013	2014	2015*	2012	2013	2014	2015*	
Aroma Varieties	39,143	39,327	48,500	44,847	45.1	47.6	50.2	51.5	
Bitter Varieties	47,483	43,228	48,100	42,219	54.8	52.3	49.8	48.5	
Rest	70	76	70	72	0.1	0.1	0.1	0.1	
Total	86,696	82,631	96,670	87,138	100.0	100.0	100.0	100.0	

Alpha Amount in kg					Alpha Content in %				
	2012	2013	2014	2015*	2012	2013	2014	2015*	
Aroma Varieties	2,166,400	1,950,100	2,464,200	2,261,500	5.5	5.0	5.1	5.0	
Bitter Varieties	5,784,300	5,255,400	5,881,100	4,601,500	12.2	12.2	12.2	10.9	
Rest	4,700	5,000	4,400	4,400	6.7	6.6	6.4	6.3	
Total	7,955,400	7,210,600	8,349,700	6,867,400	9.2	8.7	8.6	7.9	

Alpha Values over time 2001 – 2015



*Estimate

World Beer Production 2012 – 2015

	Beer Production in Mio hl				+/- %		
	2012	2013	2014	2015*	12/13	13/14	14/15*
Germany	94.6	94.4	95.6	96.0	- 0.2	+ 1.3	+ 0.4
Russia	97.2	88.9	76.6	70.1	- 8.5	- 13.8	- 8.5
England	42.0	42.4	41.2	41.5	+ 1.0	- 2.8	+ 0.7
Poland	37.8	39.6	39.2	39.3	+ 4.8	- 1.0	+ 0.3
Spain	33.0	33.1	33.5	34.0	+ 0.3	+ 1.2	+ 1.5
Netherlands	24.3	23.7	23.7	23.8	- 2.5	+ 0.0	+ 0.4
Czech Rep.	18.3	18.6	19.7	19.7	+ 1.6	+ 5.9	+ 0.0
France	18.9	18.7	18.8	18.9	- 1.1	+ 0.5	+ 0.5
Ukraine	30.0	27.6	24.5	18.6	- 8.0	- 11.2	- 24.1
Belgium	18.5	18.1	18.0	18.0	- 2.2	- 0.6	+ 0.0
Romania	17.9	16.6	16.5	16.7	- 7.3	- 0.6	+ 1.2
Italy	12.7	12.7	13.0	13.1	+ 0.0	+ 2.4	+ 0.8
Turkey	10.0	8.0	10.1	10.0	- 20.0	+ 26.3	- 1.0
Austria	8.9	9.2	9.2	9.1	+ 3.4	+ 0.0	- 1.1
Ireland	8.3	8.0	8.0	8.0	- 3.6	+ 0.0	+ 0.0
Portugal	7.6	7.9	7.4	7.5	+ 3.9	- 6.3	+ 1.4
Denmark	6.3	6.1	6.1	6.2	- 3.2	+ 0.0	+ 1.6
Hungary	6.2	6.0	6.2	6.2	- 3.2	+ 3.3	+ 0.0
Bulgaria	5.0	5.1	4.9	4.7	+ 2.0	- 3.9	- 4.1
Sweden	3.8	3.8	4.4	4.6	+ 0.0	+ 15.8	+ 4.5
Finland	4.2	4.0	4.0	4.0	- 4.8	+ 0.0	+ 0.0
Greece	3.4	3.7	3.7	3.6	+ 8.8	+ 0.0	- 2.7
Switzerland	3.5	3.4	3.4	3.5	- 2.9	+ 0.0	+ 2.9
Croatia	3.5	3.4	3.4	3.4	- 2.9	+ 0.0	+ 0.0
Lithuania	3.0	2.9	3.1	3.2	- 3.3	+ 6.9	+ 3.2
Slovakia	3.3	3.2	2.9	2.9	- 3.0	- 9.4	+ 0.0
Norway	2.4	2.4	2.4	2.4	+ 0.0	+ 0.0	+ 0.0
Slovenia	1.9	1.9	2.0	2.0	+ 0.0	+ 5.3	+ 0.0
Estonia	1.2	1.5	1.5	1.6	+ 25.0	+ 0.0	+ 6.7
Latvia	1.6	1.5	1.0	1.0	- 6.3	- 33.3	+ 0.0
Albania	0.5	0.6	0.6	0.6	+ 20.0	+ 0.0	+ 0.0
Luxembourg	0.3	0.3	0.3	0.3	+ 0.0	+ 0.0	+ 0.0
Cyprus	0.3	0.3	0.2	0.3	+ 0.0	- 33.3	+ 50.0
Malta	0.1	0.1	0.1	0.1	+ 0.0	+ 0.0	+ 0.0
Europe rest	14.1	13.4	13.6	13.2	- 5.0	+ 1.5	- 2.9
Europe total	544.6	531.1	518.8	508.1	- 2.5	- 2.3	- 2.1
USA	230.1	224.6	225.9	225.8	- 2.4	+ 0.6	- 0.0
Brazil	132.0	134.2	134.5	133.0	+ 1.7	+ 0.2	- 1.1
Mexico	81.5	82.0	82.0	82.5	+ 0.6	+ 0.0	+ 0.6
Canada	19.5	22.6	22.6	22.6	+ 15.9	+ 0.0	+ 0.0
Colombia	22.3	22.3	22.0	22.2	+ 0.0	- 1.3	+ 0.9
Venezuela	21.7	22.2	22.4	21.5	+ 2.3	+ 0.9	- 4.0
Argentina	16.8	16.8	16.3	16.5	+ 0.0	- 3.0	+ 1.2
Peru	13.0	13.5	13.5	13.6	+ 3.8	+ 0.0	+ 0.7
Chile	5.7	6.0	6.2	6.3	+ 5.3	+ 3.3	+ 1.6
Equador	5.8	6.0	6.0	6.0	+ 3.4	+ 0.0	+ 0.0
Dominican Rep.	3.5	3.6	3.6	3.6	+ 2.9	+ 0.0	+ 0.0
Cuba	2.7	2.8	2.8	2.8	+ 3.7	+ 0.0	+ 0.0
Panama	1.9	1.9	2.1	2.1	+ 0.0	+ 10.5	+ 0.0
Costa Rica	1.6	1.7	1.7	1.8	+ 6.3	+ 0.0	+ 5.9
Guatemala	1.6	1.5	1.6	1.7	- 6.3	+ 6.7	+ 6.3
Paraguay	1.5	1.5	1.5	1.5	+ 0.0	+ 0.0	+ 0.0
Bolivia	1.3	1.4	1.4	1.4	+ 7.7	+ 0.0	+ 0.0
El Salvador	0.8	1.0	1.1	1.1	+ 25.0	+ 10.0	+ 0.0
Uruguay	1.0	1.0	1.0	1.0	+ 0.0	+ 0.0	+ 0.0
Jamaica	1.0	1.0	1.0	1.0	+ 0.0	+ 0.0	+ 0.0
Nicaragua	0.8	1.0	1.0	1.0	+ 25.0	+ 0.0	+ 0.0



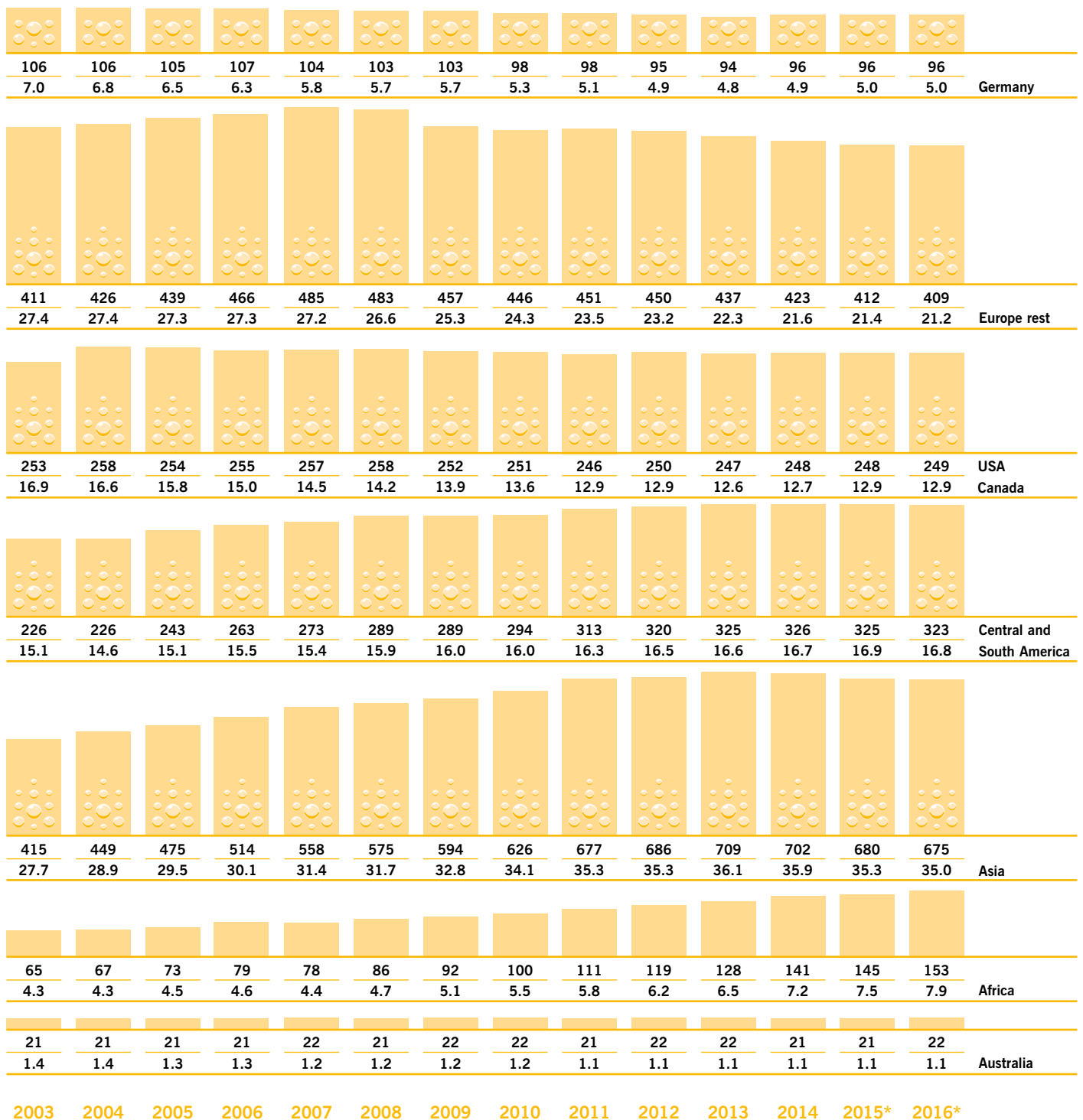
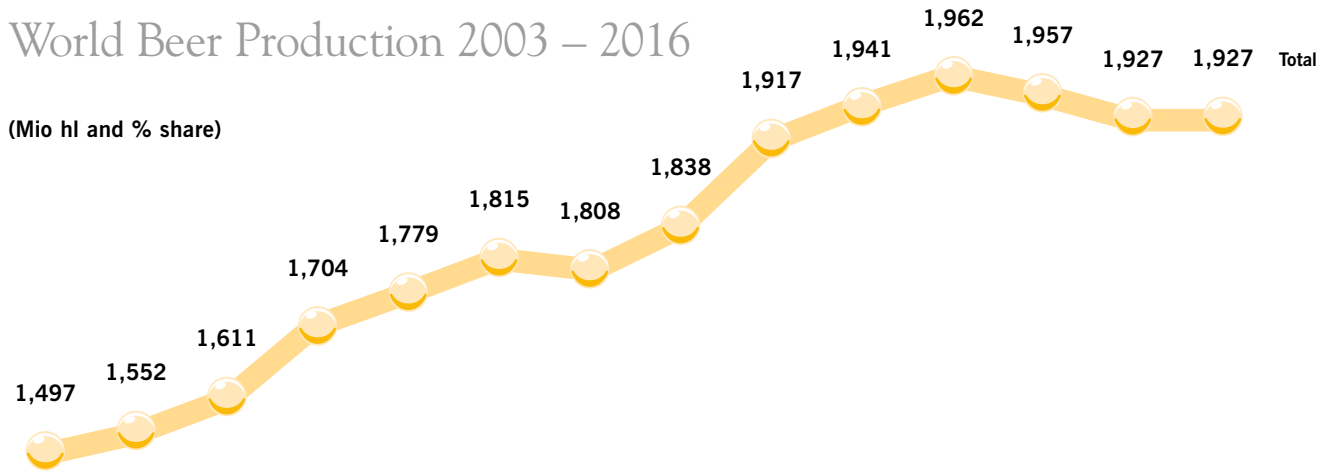
*Estimate

	Beer Production in Mio hl				+/- %		
	2012	2013	2014	2015*	12/13	13/14	14/15*
→ Honduras	1.0	0.9	1.0	1.0	- 10.0	+ 11.1	+ 0.0
Puerto Rico	0.6	0.7	0.7	0.8	+ 16.7	+ 0.0	+ 14.3
Trinidad	0.4	0.4	0.4	0.4	+ 0.0	+ 0.0	+ 0.0
America rest	1.5	1.6	1.8	1.9	+ 6.7	+ 12.5	+ 5.6
America total	569.6	572.2	574.1	573.1	+ 0.5	+ 0.3	- 0.2
P.R.China	490.0	506.0	493.0	465.0	+ 3.3	- 2.6	- 5.7
Japan	55.3	57.2	53.9	53.8	+ 3.4	- 5.8	- 0.2
Vietnam	29.7	32.0	35.4	38.2	+ 7.7	+ 10.6	+ 7.9
Thailand	23.9	21.0	22.4	23.1	- 12.1	+ 6.7	+ 3.1
South Korea	19.0	19.4	20.8	21.5	+ 2.1	+ 7.2	+ 3.4
India	19.2	20.0	20.0	20.0	+ 4.2	+ 0.0	+ 0.0
Philippines	15.8	16.2	17.0	17.2	+ 2.5	+ 4.9	+ 1.2
Cambodscha	3.5	4.1	4.8	5.4	+ 17.1	+ 17.1	+ 12.5
Taiwan	3.9	4.9	5.3	5.3	+ 25.6	+ 8.2	+ 0.0
Laos	3.0	3.6	4.0	4.3	+ 20.0	+ 11.1	+ 7.5
Myanmar	1.3	2.0	2.9	3.5	+ 53.8	+ 45.0	+ 20.7
Malaysia	2.2	2.4	2.6	2.6	+ 9.1	+ 8.3	+ 0.0
Indonesia	2.6	2.7	2.9	2.3	+ 3.8	+ 7.4	- 20.7
Singapore	1.2	1.2	1.2	1.2	+ 0.0	+ 0.0	+ 0.0
Israel	1.0	1.1	1.2	1.2	+ 10.0	+ 9.1	+ 0.0
Sri Lanka	0.8	0.9	1.0	1.1	+ 12.5	+ 11.1	+ 10.0
Mongolia	0.5	0.6	0.8	0.9	+ 20.0	+ 33.3	+ 12.5
Nepal	0.5	0.5	0.6	0.7	+ 0.0	+ 20.0	+ 16.7
Lebanon	0.3	0.3	0.3	0.3	+ 0.0	+ 0.0	+ 0.0
Jordan	0.1	0.1	0.1	0.1	+ 28.6	+ 11.1	+ 0.0
Pakistan	0.1	0.1	0.1	0.1	- 11.1	+ 12.5	+ 11.1
Asia rest	11.9	12.4	11.6	12.1	+ 4.2	- 6.5	+ 4.3
Asia total	685.8	708.7	701.9	679.9	+ 3.3	- 1.0	- 3.1
South Africa	31.3	31.5	31.5	31.7	+ 0.6	+ 0.0	+ 0.6
Nigeria	23.5	25.0	27.0	27.1	+ 6.4	+ 8.0	+ 0.4
Angola	9.4	10.0	11.0	11.2	+ 6.4	+ 10.0	+ 1.8
Cameroon	6.3	6.5	7.8	7.9	+ 3.2	+ 20.0	+ 1.3
Zaire	5.1	5.5	6.0	6.1	+ 7.8	+ 9.1	+ 1.7
Kenya	5.4	5.3	5.1	5.2	- 1.9	- 3.8	+ 2.0
Ethiopia	3.6	4.0	5.1	5.2	+ 11.1	+ 27.5	+ 2.0
Tanzania	3.5	3.8	4.3	4.4	+ 8.6	+ 13.2	+ 2.3
Zambia	0.8	1.2	3.0	3.6	+ 50.0	+ 150.0	+ 20.0
Uganda	3.1	3.2	3.4	3.5	+ 3.2	+ 6.3	+ 2.9
Mosambique	1.9	3.0	3.1	3.0	+ 57.9	+ 3.3	- 3.2
Ghana	1.8	2.0	2.7	2.8	+ 11.1	+ 35.0	+ 3.7
Namibia	2.4	2.5	2.5	2.5	+ 4.2	+ 0.0	+ 0.0
Zimbabwe	1.0	1.5	2.2	2.5	+ 50.0	+ 46.7	+ 13.6
Ivory Coast	1.5	1.9	2.3	2.4	+ 26.7	+ 21.1	+ 4.3
Tunisia	1.6	1.9	2.0	2.2	+ 18.8	+ 5.3	+ 10.0
Algeria	1.4	1.4	1.6	1.8	+ 0.0	+ 14.3	+ 12.5
Madagascar	0.9	1.1	1.2	1.2	+ 22.2	+ 9.1	+ 0.0
Egypt	1.0	1.0	1.0	1.0	+ 0.0	+ 0.0	+ 0.0
Marocco	0.9	0.8	0.8	0.8	- 11.1	+ 0.0	+ 0.0
Mauritius	0.5	0.5	0.4	0.3	+ 0.0	- 20.0	- 25.0
Africa rest	12.5	14.3	17.1	18.5	+ 14.4	+ 19.6	+ 8.2
Africa total	119.4	127.9	141.1	144.9	+ 7.1	+ 10.3	+ 2.7
Australia	17.2	17.3	16.9	17.1	+ 0.6	- 2.3	+ 1.2
New Zealand	3.2	2.9	2.8	2.9	- 9.4	- 3.4	+ 3.6
Oceania	1.2	1.5	1.4	1.4	+ 25.0	- 6.7	+ 0.0
Australia total	21.6	21.7	21.1	21.4	+ 0.5	- 2.8	+ 1.4
World total	1,941.0	1,961.5	1,957.0	1,927.3	+ 1.1	- 0.2	- 1.5

*Estimate

World Beer Production 2003 – 2016

(Mio hl and % share)



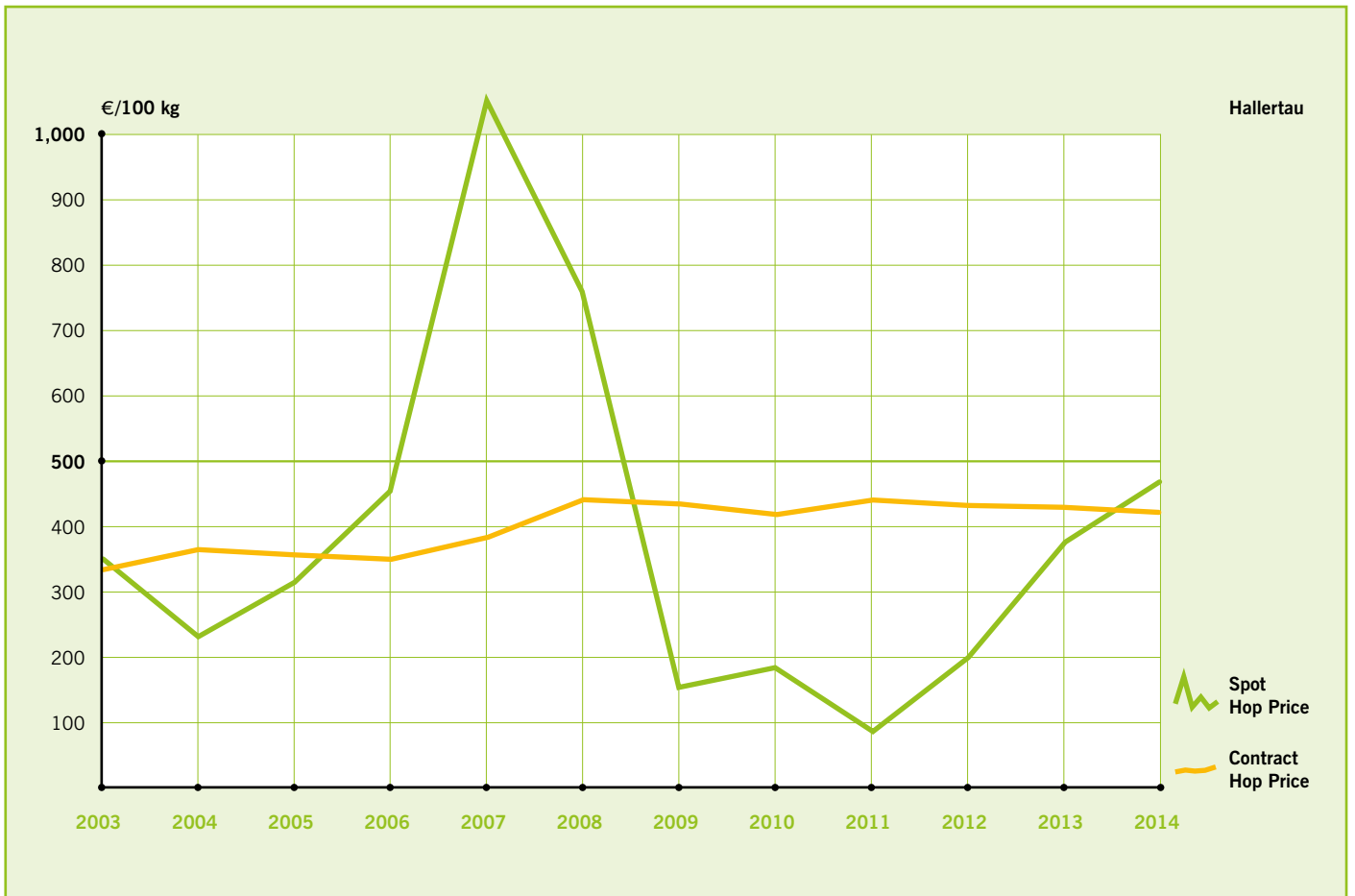
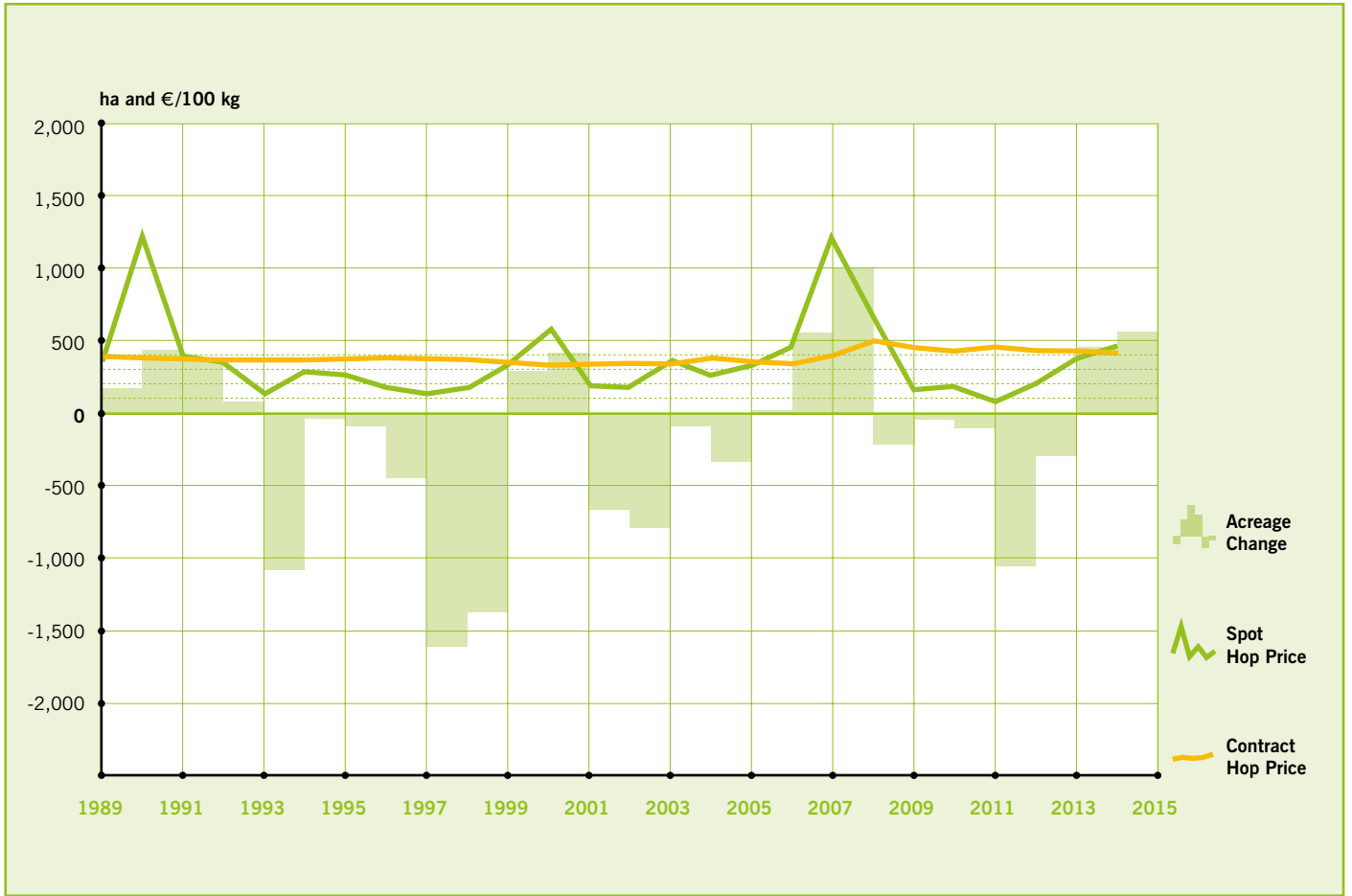
*Estimate

World Hop Acid Supply and Demand 2008 – 2015

	Production (mt Alpha)	Beer Production (Mio hl)	Alpha Dosage (g Alpha/hl)	Alpha Usage (mt Alpha)	Annual Balance (mt Alpha)	
2008	9,748	2009	1,808	3.9	7,051	2,697
2009	10,062	2010	1,838	3.9	7,166	2,896
2010	8,192	2011	1,917	4.0	7,668	524
2011	9,560	2012	1,941	4.2	8,152	1,408
2012	7,955	2013	1,962	4.2	8,240	- 285
2013	7,211	2014	1,957	4.3	8,415	- 1,204
2014	8,350	2015*	1,927	4.3	8,286	64
2015*	6,867	2016*	1,927	4.3	8,286	- 1,419



*Estimate



Hop Market Review and Outlook

Looking back

Crop 2014 generally had good yields and quality.

Worldwide the average alpha acid content of crop 2014 was approximately 8.6%, which was nearly the same as crop 2013. The world crop of 96,670 MT hops equates to a production of 8,350 MT alpha acids. We estimate demand for alpha acids to be around 8,300 MT, so in theory the crop resulted in a slight surplus.

Nevertheless the aroma segment of the market remains undersupplied due to the ongoing growth of craft style beers worldwide. Acreage in USA continues to shift from bitter to aroma whilst the supply of fine aroma varieties from Europe remains tight.

Looking forward

There were slight adjustments to the hop acreage in Europe in 2015. In USA, however, there was a further significant increase in the traditional growing area of the Pacific Northwest of approximately 16% (2,418 hectares) to follow the 8% increase in 2014. It is estimated that another 500 hectares were planted in other States across the USA, which would mean that with 18,305 total hectares, the USA is now the largest hop producing country.

Summer weather conditions were warmer and drier than usual. In USA the lack of snowfall in winter led to restricted irrigation water availability while in Europe there was a lack of rain throughout the summer. The results of these adverse conditions differed depending upon region and variety.

In USA there was a negative effect primarily on early-harvest varieties but also on others depending upon water availability during the most critical weeks of the summer. Overall the percent increase in bales harvested was less than the percent increase in acres grown, 12.7% compared to 16%, though some of this is attributed to the shift to aroma varieties which yield less per acre.

Generally in Europe the crop was not able to recover from the hot, dry summer weather. The crop was approximately 41,504 MT or 23.8% less than crop 2014 despite a slightly higher acreage. All major growing areas experienced a significant reduction; the Czech Republic's drop in production was around 30% compared to 2014, whilst the decrease in Slovenia was 35%.

The crop result shows that European growing areas must address their lack of irrigation and that the USA needs a large winter snowpack to ensure a normal crop in 2016. Furthermore, hop breeding will have to focus on yields in adverse growing conditions. Newer varieties have shown that they have the ability to achieve more stable yields despite challenging weather. Traditional varieties have not exhibited that kind of resilience.

In addition to lower weight yields, 2015 European alpha values are well below long-term averages. All aroma varieties are in alpha clause territory. Lower values amongst bitter hops will mean a substantial reduction of available alpha.

According to published data and our own analysis, the world's beer production was down slightly in 2015. Approximately 8,286 mt alpha acids would be required for an estimated 2016 beer production of 1,927 million hl. Based upon crop 2015 alpha production, there will be a deficit of approximately 1,419 mt alpha acids.



Several European aroma varieties, for example Saaz, Stryian Golding and Select, are unavailable for spot purchases. In USA the Centennial crop had low yields, precluding any spot volumes. Several other aroma varieties continue to be in short supply. The variety mix in USA continues its shift to majority aroma as a result of continuous growth of hop-forward craft beers. The craft beer segment is still growing at a double-digit rate with a stated goal of 20% market share in USA by 2020. It appears likely that this goal will be met which means that well over half of the US hop crop will be used in craft beer even with annual acreage increases and related investment for infrastructure. This continues to result in upward pressure on pricing.


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