

HOP VARIETY SPECIFICATIONS						Compiled 2011								
Variety	Origin	Type	Alpha Acid%	Beta Acid%	Co-Humulone % of AA	Total Oil mis/100gms	Main hydrocarbons as % of total essential oil.				Storage Stability	Comments		
							Myrcene	Humulene	Caryophyllene	Farnesene				
Victoria	Australia	Bittering	14.0 - 15.0	6.0 - 8.0	38 - 40	1.6 - 2.0	30 - 45	14 - 16	9 - 11	<1	•	A high alpha seedless triploid.		
Opal	Australia	Dual	13.0 - 14.0	3.5 - 4.0	28 - 34	0.9 - 1.1	30 - 45	20 - 25	9 - 11	0.2	•••	A combination of high alpha and good aroma.		
Pride of Ringwood	Australia	Dual	9.0 - 12.0	4.0 - 6.0	33 - 39	1.0 - 2.0	25 - 50	3 - 8	5 - 10	<1	-	Long established Tasmanian wild/English cross. Medium alpha and good aroma.		
Super Pride	Australia	Dual	14.0 - 15.0	7.0 - 8.0	30 - 34	1.7 - 1.9	30 - 45	1 - 2	7 - 9	<1	•••	High alpha seedless triploid bred as a replacement for Pride of Ringwood.		
Galaxy	Australia	Dual	13.5 - 14.8	5.8 - 6.0	32 - 37	2.4 - 2.7	33 - 42	1 - 2	9 - 12	4 - 6	-	Offers a clean citrus and passionfruit character as well as high alpha		
Saaz	Czech Republic	Aroma	3.0 - 4.5	3.0 - 4.0	25 - 30	0.4 - 0.7	20 - 25	40 - 45	10 - 12	1 - 15	•••	The classic spicy/herbal hop of Pilsener beers.		
Marynka	Czech Republic	Dual	9.0 - 12.0	10.2 - 13.0	26 - 33	1.8 - 2.2	28 - 31	26 - 33	10 - 13	1 - 2	-	A bittering hop with strong & intense aroma.		
Sladek	Czech Republic	Dual	5.0 - 9.0	8.0 - 11.0	22 - 28	0.8 - 1.0	25 - 40	30 - 40	10 - 14	<1	-	A hybrid aroma Saaz / Northern Brewer type with delicate aroma		
Premiant	Czech Republic	Dual	7.0 - 11.0	3.5 - 6.0	18 - 23	1.0 - 2.0	35 - 40	25 - 35	7 - 13	1.5 - 3.0	-	Created by crossing high alpha types with Saaz types for a mild pleasant aroma		
Agnus	Czech Republic	Dual	11.0 - 15.0	5.0 - 8.0	29 - 38	2.0 - 3.0	40 - 55	15 - 22	9 - 13	<1	-	Created from hybrid progenies of Sladek, Saaz, Bor, Northern Brewer and Fuggle for a Str		
Harmonie	Czech Republic	Dual	5.0 - 8.0	5.0 - 8.0	17 - 21	1.0 - 2.0	30 - 40	15 - 25	7 - 11	<1	-	Crossing of Premiant, Saaz types and northern Brewer for a spicy character		
Bor	Czech Republic	Dual	6.5 - 11.0	3.5 - 6.0	22 - 27	1.0 - 2.0	40 - 55	25 - 35	7 - 12	<1	-	progeny of Northern Brewer type after gama radiation treatment. Mild and pleasant aroma		
Rubin	Czech Republic	Dual	10.0 - 14.0	4.0 - 6.0	25 - 33	1.0 - 2.0	30 - 40	15 - 30	7 - 10	<1	-	Crossing of Bor, Saaz and northern Brewer for a harsh and spicy aroma		
East Kent Golding	England	Aroma	4.4 - 6.7	2.0 - 2.7	29 - 30	0.7 - 1.0	25 - 35	35 - 45	10 - 15	<1	•••	The traditional English aroma hop, reserved for Pale Ales.		
Admiral	England	Bittering	13.5 - 15.5	4.8 - 6.0	37 - 45	1.0 - 1.7	39 - 40	7 - 8	6 - 8	1 - 2	•••	Newer high-alpha type, a more potent replacement for Target.		
Target	England	Bittering	9.5 - 12.5	4.3 - 5.5	35 - 39	1.2 - 1.4	45 - 55	17 - 22	8 - 10	<1	-	Early high-alpha variety, mostly goes into extract products.		
Bramling Cross	England	Dual	6.0 - 7.8	2.2 - 2.8	26 - 31	0.8 - 1.2	35 - 40	28 - 33	14 - 18	<1	-	Wild Manitoba/Golding cross. Blackcurrant, lemony aroma.		
Challenger	England	Dual	6.5 - 8.5	2.5 - 4.5	20 - 25	1.0 - 1.5	30 - 42	25 - 32	8 - 10	1 - 3	•••	Dual purpose English hop with fruity aroma.		
First Gold	England	Dual	5.6 - 8.7	2.4 - 3.6	29 - 34	0.7 - 1.5	27 - 28	20 - 24	6 - 7	3	••••	Dwarf hop with fine English Golding character. WGV heritage.		
Fuggle	England	Dual	3.0 - 5.5	2.0 - 3.0	29 - 30	0.7 - 1.4	24 - 28	34 - 40	11 - 13	5 - 7	•••	Traditional hop for darker beers. Less refined than Golding.		
Herald	England	Dual	11.0 - 13.0	4.8 - 5.5	35 - 37	1.0 - 1.9	38 - 42	13 - 17	5 - 9	<1	•••	Dwarf variety with balanced bitterness and acceptable aroma.		
Northdown	England	Dual	6.8 - 9.5	3.3 - 6.2	24 - 30	1.2 - 2.2	23 - 29	40 - 45	13 - 17	<1	•••	Generally regarded as the best of the English dual purpose hops		
Pilgrim (P38)	England	Dual	10.0 - 13.0	4.2 - 5.2	36 - 38	1.6 - 2.0	25 - 35	15 - 19	7 - 8	<1	•••	Released 2001. High Selinene content may be of interest to brewers.		
Phoenix	England	Dual	12.0 - 15.0	3.3 - 5.3	24 - 28	1.3 - 2.5	24 - 32	25 - 32	8 - 10	1 - 2	•••••	New dual use hop with very attractive English aroma.		
Pioneer	England	Dual	8.0 - 10.0	3.5 - 4.0	36 - 40	1.0 - 1.8	31 - 36	22 - 24	7 - 8	<1	•••	New dwarf variety with clean bitterness and mild English aroma.		
Progress	England	Dual	6.0 - 7.5	2.0 - 2.5	25 - 36	0.5 - 0.8	30 - 35	40 - 47	12 - 15	<1	•••	WGV/American cross. Similar to Fuggle but a little sweeter.		
WGV	England	Dual	5.4 - 7.7	2.0 - 3.3	32 - 43	0.9 - 1.4	21 - 27	39 - 44	12 - 14	1 - 3	•••••	Traditional English hop with sweet, fruity aroma. A little coarse.		
Strisselspalt	France	Aroma	3.0 - 5.0	3.0 - 5.0	20 - 25	0.6 - 0.9	20 - 30	15 - 25	8 - 10	<1	•••	The main French variety, probably related to Hallertauer.		
Aramis	France	Aroma												
Hallertauer Mittelfrüh	Germany	Aroma	3.5 - 5.5	3.0 - 4.0	17 - 24	0.7 - 1.3	10 - 20	30 - 35	7 - 10	<1	•••••	Original "noble-type" aroma hop. Being replaced with newer hops.		
Hallertauer Tradition	Germany	Aroma	5.0 - 7.0	4.0 - 5.0	26 - 29	1.0 - 1.4	20 - 25	45 - 55	10 - 15	<1	•••	Disease resistant, more aromatic replacement for Hallertauer.		
Hersbrucker	Germany	Aroma	3.0 - 5.5	4.0 - 5.5	19 - 25	0.7 - 1.3	15 - 25	15 - 25	7 - 12	<1	•••	Traditional German variety. Drier, spicier than Hallertauer.		
Hersbrucker Pure	Germany	Aroma	4.2 - 5.2	2.0 - 2.8	25 - 27	0.5 - 0.7	22 - 25	25 - 29	10 - 13	<1	•••	New aroma variety bred at Hull excellent aroma and low co-humulone.		
Saphir (Saphire)	Germany	Aroma	2.0 - 4.5	4.0 - 7.0	12 - 17	0.8 - 1.4	25 - 40	20 - 30	9 - 14	<1	••••	Fine Aroma variety with citrus aroma and a little tangerine		
Smaragd (Emerald)	Germany	Aroma	4.0 - 6.0	3.5 - 5.5	13 - 18	0.4 - 0.8	20 - 40	30 - 50	9 - 14	<1	•••	Also known as Emerald, fine aroma with high bitter value, good yeild.		
Spalter	Germany	Aroma	3.5 - 5.5	4.0 - 5.5	23 - 28	0.5 - 1.1	15 - 25	18 - 25	10 - 15	10 - 15	•	Highly valued traditional German noble hop, important in altbiers.		
Spalter Select	Germany	Aroma	4.0 - 6.0	3.5 - 4.5	21 - 25	0.5 - 1.0	15 - 25	15 - 25	7 - 11	15 - 25	•••	Disease-resistant cultivar of Spalt, closer to Hallertauer in aroma.		
Tettnanger	Germany	Aroma	3.5 - 5.5	3.5 - 5.0	23 - 29	0.6 - 1.0	20 - 25	20 - 25	6 - 10	12 - 16	•	Traditional aroma hop with soft spiciness. Great in Weiss beer.		
Hallertauer Magnum	Germany	Bittering	12.0 - 14.0	4.5 - 5.0	24 - 25	1.9 - 2.3	30 - 35	34 - 40	8 - 12	<1	••••	High alpha with some German taste characteristics.		
Hallertauer Taurus	Germany	Bittering	12.0 - 16.0	3.5 - 4.5	23 - 25	1.2 - 1.6	28 - 32	28 - 32	7 - 10	<1	•	New high alpha variety with high xanthohumol content some disease resistance.		
Merkur	Germany	Bittering	12.0 - 14.0	5.0 - 5.2	18 - 19	2.6 - 3.0	48 - 50	29 - 32	8 - 9	<1	•••	New high alpha variety with a strong aroma.		
Brewers Gold	Germany	Dual	5.5 - 8.0	2.0 - 3.5	40 - 48	1.8 - 2.2	37 - 40	29 - 31	7 - 8	<1	•	English/Wild Canadian cross. Pungent English character.		
Hüller Bitterer	Germany	Dual	5.0 - 6.3	4.8 - 5.2	27 - 30	1.3 - 1.7	27 - 29	20 - 22	7 - 9	<1	•	Wilt resistant variety with acceptable aroma and bitterness.		
Northern Brewer	Germany	Dual	7.0 - 10.0	3.0 - 5.0	28 - 33	1.6 - 2.1	30 - 35	25 - 30	8 - 10	<1	•••	Neutral-tasting multipurpose hop.		
Orion	Germany	Dual	6.0 - 8.5	3.2 - 4.2	27 - 30	0.9 - 1.1	25 - 28	35 - 39	10 - 12	<1	•••	A Perle cross hop with medium level of bitterness with acceptable aroma.		
Perle	Germany	Dual	5.0 - 7.5	3.0 - 4.0	28 - 32	0.9 - 1.3	17 - 25	30 - 38	8 - 10	<1	•••	Hallertauer replacement with higher alpha.		
Cascade	N.Z.	Aroma	5.0 - 7.0	4.0 - 5.0	36 - 39	0.8 - 1.5	45 - 60	10 - 20	3 - 7	4 - 8	Not tested	Introduced to NZ in late 80's. Similar profile to US Cascades.		
Kohatu	N.Z.	Aroma	6.8		21.0	1.23						Big aroma with pine needles and tropical fruit. Quality bitterness		
Pacific Hallertau	N.Z.	Aroma	5.0 - 6.5	6.0 - 7.0	22 - 26	1.5 - 2.3	35 - 55	20 - 35	8 - 11	<1	•	Triploid aroma type hop bred from Hallertau Mittelfrüh.		
Motueka (B Saaz)	N.Z.	Aroma	6.5 - 9.0	5.0 - 5.8	27 - 30	1.0 - 2.0	60 - 80	1 - 3	1 - 2	7 - 13	•	NZ triploid aroma hop with a Citrusy aroma.		
Riwaka (D Saaz)	N.Z.	Aroma	4.5 - 6.5	4.0 - 5.0	29	0.8	65 - 70	9.00	4.00	1	••••	Stand out grapefruit citrus aroma with higher than average oil - breathtaking		
Wai-iti	N.Z.	Aroma			26.0	4.37						Good oil weight. Citrus aroma with mandarin, lemon and lime zest. Soft finish		
Green Bullet	N.Z.	Bittering	13.0 - 15.0	6.5 - 7.0	41 - 43	1.4 - 1.9	60 - 70	12 - 18	4 - 6	<1	•••	Early NZ triploid dual purpose hop with unique raisiny and slight floral note.		
Pacific Gem	N.Z.	Bittering	14.0 - 17.0	7.5 - 8.5	37 - 40	1.8 - 2.4	50 - 65	13 - 20	4 - 8	<1	•••	High alpha variety with delicate blackberry/floral, oak flavour.		
Pacific Sunrise	N.Z.	Bittering	12.5 - 14.5	6.0 - 6.5	27 - 30	1.7 - 2.0	45 - 55	19 - 25	6 - 9	<1	•••	NZ triploid hop with high alpha and clean crisp bitterness.		
Hallertau Aroma	N.Z.	Dual	7.0 - 10.0	7.5 - 9.0	28 - 32	1.5 - 2.0	45 - 65	8 - 17	4 - 7	3 - 6	•••	NZ triploid bred from Hallertau mittelfrüh with mix of floral & slight Citrusy note.		
Nelson Sauvín	N.Z.	Dual	12.0 - 14.0	6.0 - 8.0	22 - 26	1.7 - 2.0	50 - 60	15 - 25	5 - 8	<1	•	Specialist bittering hop with unique herbaceous/grape flavour.		
Pacific Jade	N.Z.	Dual	12.0 - 14.0	7.0 - 8.0	24.0	1.4	33	32.9	10.2	<1	••••	Soft bitterness due to low cohumulone. Herbal infusion of fresh citrus and crushed black pe		
Rakau	N.Z.	Dual	10.0 - 11.0	5.0 - 6.0	24 - 28	2.0 - 2.4	50 - 60	15 - 20	5 - 7	4 - 5	••••	Intense aromas with heavy oil weight, Resinous, pine needles, fresh fruit...the whole orch		

