



VARIETY	COUNTRY OF ORIGIN	ALPHA ACID RANGE %	BETA ACID RANGE %	CO-HUMULONE AS % OF ALPHA	TOTAL OILS MLS/100 GR.	AROMA & FLAVOR CHARACTERISTICS
Amarillo®	United States	8.0 - 11.0	6.0 - 7.0	21 - 24	1.5 - 1.9	Red grapefruit, tropical fruit, and ripe melon
Ariana	Germany	10.0 - 13.0	4.5 - 6.0	40 - 42	1.6 - 2.4	Fruity, with berry and citrus high notes backed by resinous and herbal tones
Azacca®	United States	14.0 - 16.0	4.0 - 5.5	38 - 45	1.6 - 2.5	Apricot, ripe mango, orchard fruit, and pine
Boadicea	United Kingdom	8.0 - 10.0	3.5 - 4.5	24 - 26	1.3 - 2.0	Resinous, spicy with a bright orchard fruit and floral backdrop
Callista	Germany	2.0 - 5.0	5.0 - 10.0	15 - 21	0.7 - 1.5	Fruity and herbal with a pleasant noble-hop quality
Cascade	United States	4.5 - 7.0	4.8 - 7.0	33 - 40	0.7 - 1.4	Citrus (grapefruit) and floral tones
Cashmere	United States	7.7 - 9.1	3.3 - 7.1	22 - 24	1.2 - 1.4	Lemon, lime, peach, melon, coconut, lemongrass and herbs
Centennial	United States	9.5 - 11.5	3.5 - 4.5	29 - 30	1.5 - 2.5	Citrus with undertones of lemongrass and pine
Challenger	United Kingdom	6.5 - 8.5	4.0 - 4.5	20 - 25	1.0 - 1.7	Elements of evergreen and ripe fruit with grassy notes
Chinook	United States	11.0 - 14.0	3.0 - 4.0	29 - 35	1.7 - 2.7	Mountain pine and resin, with citrus notes
Citra®	United States	11.0 - 13.0	3.5 - 4.5	22 - 24	2.2 - 2.8	Tropical fruit including peach, passion fruit, and guava
Cluster	United States	5.5 - 8.5	4.5 - 5.5	37 - 43	0.4 - 0.8	Spicy, floral with an earthy blackcurrant undertone
Comet	United States	9.0 - 12.0	3.0 - 6.0	40 - 45	1.0 - 1.5	Citrus zest and grassy with undertones of wild forest fruit
Crystal	United States	3.5 - 5.5	4.5 - 6.5	20 - 26	0.8 - 2.1	Highly floral with touch of noble spice
CTZ	United States	14.5 - 16.5	4.0 - 5.0	28 - 32	2.0 - 3.0	Oily fresh citrus and wild herbal character
Dr. Rudi (Super Alpha)	New Zealand	10.0 - 12.0	7.0 - 8.5	36 - 39	1.0 - 1.4	Sweetly grassy with overtones of lemongrass and pine sap
East Kent Goldings	United Kingdom	4.0 - 6.5	1.9 - 2.8	20 - 25	0.4 - 0.8	Flowery with citrus peel, lemon, and herbal undercurrents
Ekuanot™	United States	14.5 - 15.5	4.5 - 5.5	32 - 38	2.5 - 4.5	Complex impressions of citrus, fruit, and herbs
El Dorado®	United States	14.0 - 16.0	7.0 - 8.0	28 - 31	2.5 - 2.8	Candy-like, pear, and cherry
Fuggie	United Kingdom	3.0 - 5.6	2.0 - 3.0	25 - 30	0.7 - 1.4	Earthy-sweet, round, with warm wood, and mild fruit notes
Galaxy™	Australia	13.5 - 15.0	5.8 - 6.0	33 - 35	2.4 - 4.0	Musky tropical fruit like apricot & key lime with black currant
Galena	United States	11.5 - 13.5	7.2 - 8.7	36 - 40	0.9 - 1.3	Pleasant tropical citrus quality with "rustic" edge
Green Bullet™	New Zealand	11.0 - 14.0	6.5 - 7.0	41 - 43	1.0 - 1.4	Distinct floral, with musky notes of melon and red berry
Hallertau Blanc	Germany	9.0 - 11.0	4.0 - 7.0	28 - 35	1.2 - 2.2	Pineapple, gooseberry, white grape, and fresh lemongrass stalk
Hallertau Magnum	Germany	11.0 - 16.0	5.0 - 7.0	21 - 29	1.6 - 2.6	Mild fresh flower as well as earthy resin
Hallertau Middlefrüh	Germany	3.0 - 5.5	3.0 - 5.0	18 - 28	0.7 - 1.3	Sweet, herbal and notes of sweet spice, and dried flowers
Hersbrucker	Germany	1.5 - 4.0	2.5 - 6.0	17 - 25	0.5 - 1.0	Dried green herbs, candied citrus and tree fruit
Huell Melon	Germany	7.0 - 8.0	6.0 - 8.0	25 - 28	0.8 - 1.2	Vivid impression of summer melon and ripe strawberry
Idaho 7™	United States	13.0 - 15.0	4.0 - 5.0	30 - 40	1.0 - 1.6	Tropical fruit and citrus. Notes of resinous pine and black tea
Idaho Gem™	United States	11.0 - 14.0	5.0 - 7.0	1.3 - 2.0	40 - 45	Bright and forward impressions of fruit candy; Juicy Fruit or Jolly Rancher
Jarrylo®	United States	15.0 - 17.0	6.0 - 7.5	34 - 37	3.6 - 4.3	Banana, pear, orange, and spicy
Kazbek	Czech Republic	5.0 - 8.0	4.0 - 6.0	35 - 40	0.9 - 1.8	Noble spice of Saaz with earthy, lemon peel overtones
Kohatu®	New Zealand	6.0 - 7.0	5.0 - 6.0	21 - 23	1.0 - 1.5	Bright lime and pineapple with traces of pine
Liberty	United States	3.0 - 5.0	3.0 - 4.0	24 - 30	0.6 - 1.8	Spicy, sweet, grassy, and haylike
Mandarina Bavaria	Germany	7.0 - 10.0	4.0 - 7.0	31 - 35	1.5 - 2.2	Intense tangerine and orange candy with herbal follow up
Mosaic®	United States	11.5 - 13.5	3.2 - 3.9	24 - 26	1.0 - 1.5	Strong citrus, balsam pine, blueberry, and tropical fruit
Motueka™	New Zealand	6.5 - 7.5	5.0 - 5.5	28 - 30	0.8 - 1.0	Sweet and resinous with zingy citrus and herbal notes
Mount Hood	United States	4.0 - 7.0	5.0 - 8.0	21 - 23	1.6 - 3.4	Suggestions of herb-infused honey, floral and green fruit
Moutere™	New Zealand	17.5 - 19.5	8.0 - 10.0	24 - 28	1.5 - 1.9	Grapefruit, passionfruit, spry hay, earthy baking spice, and resinous pine
Nelson Sauvin™	New Zealand	12.0 - 13.0	6.0 - 8.0	23 - 25	0.9 - 1.2	Key lime, pine, tropical fruit like lychee, and papaya
Northern Brewer	Germany	6.0 - 10.0	3.0 - 5.0	27 - 32	1.6 - 2.1	Spicy, with hints of woods and wild fruit
Nugget	United States	11.5 - 14.0	3.0 - 5.8	22 - 30	1.8 - 2.2	Mild herbal, lemon candy, ginger, and fresh oregano
Pacific Gem™	New Zealand	13.0 - 15.0	7.0 - 9.0	37 - 40	1.0 - 1.3	Vivid wild forest fruit like blackberry and blackcurrant
Pacific Jade™	New Zealand	12.0 - 14.0	7.0 - 8.0	23 - 25	1.1 - 1.5	Mild to moderate musky fruit like melon, lime, and blood orange
Pacifica™	New Zealand	5.0 - 6.0	5.0 - 6.0	24 - 26	0.9 - 1.2	Orange marmalade, delicate citrus, and tangy herbal
Pahto™	United States	17.0 - 20.0	4.5 - 6.0	30 - 32	1.0 - 2.5	Herbal, earthy, and floral; contributes smooth, clean bitterness
Perle	Germany	4.0 - 8.0	2.5 - 4.5	29 - 35	0.5 - 1.5	Sweet, fresh mint, and spice
Polaris	Germany	18.0 - 24.0	5.0 - 6.5	22 - 29	4.4 - 4.8	Intense wintergreen, eucalyptus, and green apple candy
Progress	United Kingdom	5.0 - 7.5	1.8 - 2.7	25 - 27	0.5 - 0.8	Spring grass, herbs, and fresh flowers with hints of dried mint
Rakau™	New Zealand	9.0 - 11.0	5.0 - 6.0	23 - 25	1.8 - 2.2	Ripe fruit, lemon, grapefruit juice, and hints of tropical flowers
Saaz	Czech Republic	2.0 - 5.0	4.5 - 8.0	23 - 26	0.4 - 1.0	Soft spicy and herbal quality with dark floral character
Sabro™	United States	12.0 - 16.0	4.0 - 7.0	20 - 24	2.5 - 3.5	Complex fruit (tropical/stone fruit) and citrus underscored by hints of cedar and mint
Saphir	Germany	2.0 - 4.5	4.0 - 7.0	12 - 17	0.8 - 1.4	Strong spicy, sweet, and citrus fruit overtones
Select	Germany	3.0 - 6.5	2.5 - 5.0	21 - 27	0.6 - 0.9	Spicy, flowery, undertones of ripe berry and citrus.
Southern Cross™	New Zealand	11.0 - 14.0	5.0 - 6.0	25 - 28	1.4 - 1.8	Lemon with notes of pine needles
Sorachi Ace	United States	11.0 - 12.5	6.5 - 7.0	23 - 26	2.0 - 2.8	Distinctive lemon, dill, and fruit pith
Sovereign	United Kingdom	4.5 - 6.5	2.1 - 3.1	26 - 30	0.6 - 1.0	Intense peach, red currant, berry, and cherry
Sterling	United States	6.0 - 9.0	4.0 - 6.0	22 - 28	1.3 - 1.9	Herbal qualities reminiscent of Saaz, flashes of sweet grass
Styrian Golding Celeia	Slovenia	3.0 - 6.0	2.0 - 6.0	26 - 29	0.6 - 3.6	Invitingly earthy and resinous character
Summit™	United States	15.0 - 18.0	4.0 - 6.0	26 - 33	1.5 - 2.5	Tangerine, also earthy onion/garlic tones - harvest dependent
Target	United Kingdom	9.5 - 12.5	4.3 - 5.7	35 - 40	1.2 - 1.4	Pungent dried citrus and sagebrush overtones
Tettnang	Germany	2.5 - 5.5	3.0 - 5.0	22 - 28	0.5 - 0.9	Floral, herbal, and spicy with hints of fruit notes
Tradition	Germany	4.0 - 7.0	3.0 - 6.0	24 - 30	1.0 - 1.4	Strong herbal and spice components
Triumph	United States	9.0 - 12.0	3.0 - 5.0	N/A	0.8 - 1.8	Intense and fruity (bubblegum, peach, and citrus) backed by spice and pine.
Vic Secret™	Australia	14.0 - 17.0	6.1 - 7.8	51 - 56	2.2 - 2.8	Passionfruit and pineapple with notes of fresh herbs and pine needles
Wai-iti™	New Zealand	2.5 - 3.5	4.5 - 5.5	22 - 24	1.4 - 1.8	Peach and apricot, with lime and mandarin orange
Waimea™	New Zealand	16.0 - 19.0	7.0 - 9.0	22 - 24	1.8 - 2.3	Assertive citrus fruit aromas, with subtle pine notes
Wakatu™	New Zealand	6.5 - 8.5	8.0 - 8.5	28 - 30	0.9 - 1.2	Fresh lime zest, citrus oils, and Mittlefrüh-style sweetness
Warrior®	United States	14.5 - 16.5	4.3 - 5.3	22 - 26	1.3 - 1.7	Bright ripe fruit, honeysuckle, sweet herbs, and green wood
WGV	United Kingdom	5.0 - 7.5	2.5 - 3.5	35 - 39	0.8 - 1.2	Woody, fresh garden herbs and green fruit
Willamette	United States	4.0 - 6.0	3.0 - 4.5	30 - 35	1.0 - 1.5	Mild with notes of resin, dried fruit, and fresh hay