

Hop Descriptions and Some Suggestions

U.S GROWN

Ahtanum™ (4 – 6.5%) - An aroma/flavoring hop variety that is similar to Cascade or Amarillo. It has a citrus and floral character with the addition of some piney or earth notes. Low alpha acids make Ahtanum a good choice for a flavor addition when you do not want to impart quite the bitterness. Beer styles suited for Ahtanum include American Pale Ale, American IPA and light Lagers.

Amarillo® (6.9 – 9%) - Relatively new hop that was discovered as a mutation by a grower. Used for general kettle and aroma additions. The aroma is described as flowery, spicy and citrus-like with a distinct orange bouquet. American style Ales.

Apollo (15 - 19%) – Developed by the Hopsteiner Breeding Program, released in 2006. USDA origin, derived from Zeus. Spicy & earthy aroma. Great hop for bittering in big beers. One of the strongest hops on the market. Similar varieties: CTZ, Nugget

Bravo (14 – 17%) – Second generation super high alpha variety developed by the Hopsteiner Breeding Program & released in 2006. Excellent bittering hop that provides pleasant floral & fruity aroma characteristics. Similar hop varieties: CTZ.

Brewer's Gold (7 – 8.5%) - A bittering hop that is noted to have a sharp bittering quality and imparts a fruity yet spicy aroma. Brewer's Gold can be used in a wide range of styles from English Ales to German Lagers and adds a decidedly "European" element to the beer. These make a good partner to noble varieties such as Tettnang and Hallertauer.

Cascade (4.5 - 7%) - Derived from a cross between Fuggles and the Russian hop Serebrianker. The resultant aroma is of medium strength and very distinct. It has a pleasant, flowery and spicy, citrus-like with a slight grapefruit characteristic. The hop is good for flavor and aroma. It can also be used for bittering effectively, and can be used for any ales, and indeed is characteristic of American Pale Ales; used in some Lagers.

Centennial (9.5 – 11.5%) - Selected from a cross between Brewer's Gold and a selected USDA male. Medium intensity aroma with floral and citrus tones. Very balanced hop, used for all U.S. Ale styles, including U.S. Wheat beer.

Chinook (10 – 14%) - A cross between Petham Golding and USDA Select Male with a mild to medium-heavy, spicy, distinct piney aroma. Strong bittering ability. Used for all American Lagers and Ales.

Citra® (10 - 12%) - A new, moderately-high acid cross between Hallertau Mittelfruh, U.S. Tettnanger, Bavarian, Brewers Gold and E.K. Golding. Very fruity - specifically: Citrus, peach, apricot, passion fruit, grapefruit, lime, melon, gooseberry, lychee fruit, pineapple, mango, papaya and other tropical fruit flavors and aromas. Used in Sierra Nevada Torpedo IPA and strong American and Belgian ales

Cluster (5.5 - 8.5%) - Cluster is the oldest variety grown in the U.S. Origin of the rootstock is uncertain. Until the late 1970s, it was one of only a few varieties growing in the U.S. Excellent general purpose hop with medium and well-balanced bittering potential. This hop leaves no undesirable aroma properties. Good for dark beers with roasty and chocolaty aromas. aroma is a strong floral. Can give a black currant aroma/flavor. Substitutes: Brewer's Gold. Excellent general purpose hop with medium and well-balanced bittering potential. Light and Dark American Lagers.

Columbus (14 - 16%) - Relatively new variety becoming increasingly accepted. Used for bittering mainly, good flavor. Aroma is earthy, spicy, pungent, with some citrus overtones. Not overwhelmingly citrus like Cascade. This variety also goes by the name of Tomahawk. Use in IPA's, Pale Ales and Stouts.

Crystal (3.5 – 6%) – Primarily grown in Oregon, released in 1993. Triploid variety from German Hallertau, with contributions from Cascade, Brewer's Gold & Early Green. Half sister of Mt Hood & Liberty. Ideal hop for aroma – mix of woody, green, some floral & fruit notes & some herb & spice character. Possible subs: Mt Hood, Hersbrucker, Strisselspalt, Liberty & Hallertau. Use in Kolsch, Lager, Pilsen, ESB, Pale, IPA and Belgian Ale.

Falconer's Flight™ (11.4%) – an exclusive proprietary hop blend created to honor and support the legacy of brewing legend, Glen Hay Falconer. This novel proprietary pellet blend is comprised of many of the Northwest's most unique hop varieties and is perfect for any Northwest-style IPA. Each hop has been hand-selected for its superior aromatic qualities, imparting distinct tropical, citrus, floral, lemon and grapefruit tones.

Falconer's Flight™ 7 C's (9.9%) - An exclusive pellet blend comprised of 7 "C" hops and additional experimental varieties. Falconer's Flight 7C's delivers strong fruit and citrus characteristics but is layered with spicy, earthy overtones that allow it to function as the perfect addition/alternative to your IPA / Pale Ale style brews.

Fuggle (4 - 6%) – Traditional aroma hop, appeared in 1875 in England. Also known overseas as Styrian golding. US grown Fuggle imparts a bit less of the characteristic aroma when compared to its English cousin. Used for finishing & dry hopping English Ales, esp. Pale Ales, Porters and Stouts.

Galena (10 - 14%) - Bred from Brewer's Gold by open pollination. Excellent high alpha acid hop with balanced bittering profiles paired with acceptable hop aroma. Very bitter, but blends well with finishing hops. American Ales and Lagers. Suitable for all beer styles.

Glacier (5 - 6%)– This is an excellent new variety released in 2000. It has balanced bittering properties and a good aroma profile. Glacier is a substitution for Willamette, US Fuggle, US Tettnang and Styrian Golding. Beer styles: Pale Ale, ESB, Bitter, English-Style Pale Ale, Porter, Stout. (Out of stock)

U.S. Golding (4 - 6%) - Genuine long-established East Kent Golding variety group imported from England. Used for Pale Ales, ESB's and English Style Beers.

Some info about Goldings from Yakima Chief, Inc: Golding is a group of aroma-type cultivars originating in England. Over the decades, the group has been changed and widened. Mostly they have been named after villages in East Kent, (Petham, Rothersham, Canterbury, Eastwell) or hop farmers, who grew them (Amos's Early Bird, Cobbs). English Goldings grown in East Kent, are a premium hop, called East Kent Golding and should not be confused with U.K. Goldings, which are grown in other parts such as Kent, Worcestershire, Hampshire and Herefordshire. The cultivar grown in the USA (Oregon and Washington State) is a Canterbury Golding.

U.S. Hallertau (3.5 – 5.5%) - Traditional variety with very mild, slightly flowery and somewhat spicy aroma. Used for any style German beer Lagers, Pilsners, Bocks, Wheats, Kolsch, Munich Helles, and Belgian-Style Ales.

Horizon (10 - 16%) - a sister hop variety to Nugget. High Alpha hop with pleasant spicy/floral aroma. Low co-humulone content resulting in a very clean bittering. Can be used in all ales and lagers. Sub: Magnum.

Liberty (3.5 - 4.5%) - Fine, very mild aroma. One of three hops bred as domestic replacements for Hallertauer Mittelfrüh. It is a half-sister to Ultra, Mt. Hood and Crystal. Used for finishing. American and German Ales and Lagers.

U.S. Magnum (13 - 15%) - First super alpha variety grown in Hallertau region. Grown in Yakima Valley, useful for all beer types, esp: Lagers, Pilsner types, Stout. Typically base bitterness in lager beers (commonly used as a first hop addition). Possible subs: Columbus, Nugget.

Millenium (11 - 15%) - Very new, high alpha acid hop with a mild, herbal aroma similar to Nugget. Primarily used for bittering and flavoring. Possible substitutions include Nugget and Columbus, used for Ales, Stouts and Barley Wine.

Mosaic (11.5 – 13.5%) – Mosaic® HBC 369. As a daughter of Simcoe® YCR14, Mosaic offers a rich line of hop heritage including F-10 Tomahawk and Nugget. It features relatively high alpha acids and low cohumulone contents and displays an array of enticing aromas that transfer nicely into the finished product. Total Oil 1.0 - 1.5%, Alpha Acids 11.5 - 13.5%, Beta Acids 3.2 - 3.9%, Cohumulone 24 - 26%. Brewers have noted that Mosaic is a "complexity of flavors" providing a "powerful combination punch of pine and fruit." Specific descriptors include earthy, grassy, herbal, citrus, cedar, floral, pine, tropical, onion/garlic, spice and stone fruit. Suggested styles: American IPA's and Pales. Suggested subs: Simcoe, Columbus, Nugget.

Mt. Hood (3 - 8%) - Aroma variety with similarities to the German Hallertau and Hersbrucker varieties, released in the US in 1989. Used for aroma and flavor, American and German Ales/Lagers. Possible subs: Hallertauer, Liberty, Crystal, Strisselspalt

Mt. Rainier (6 - 8%) - Mount Rainier has a complex parentage, including Hallertau, Galena, Fuggles and other hops, and exhibits some noble hop characteristics, but is higher in alpha acid. A spicy, floral, noble aroma/flavor with licorice notes and hints of citrus. American ales & lagers.

Newport (13.5 – 17%) – Released in 2002. This high alpha bittering hop is good for use in ales, stouts, and barley wines. Mild aroma. Substitutes: Galena, Nugget, Fuggle, Magnum, Brewer's Gold.

Northern Brewer (8 – 10%) - Bred from a cross between a female hop of wild American parentage and an English male. A true dual-purpose hop, containing moderate amounts of alpha acids combined with a good aroma profile. Used for all English styles, American Ales, Kolsch and Munich Helles.

Nugget (11 – 14.5%) - Selected from a cross between Brewers Gold and a high alpha male. Heavy, herbal and spicy aroma, extremely bitter. Used for medium to dark Ales and Lagers.

Palisade® (5.5 - 9.5%) - Palisade® is a newer hop variety from the Pacific Northwest bred from the Swiss Tettanager. It typically has cohumulone levels of 24 - 29%. Moderately strong bittering properties with high oil levels and an earthy, apricot-like aroma that's often described as "pretty". Some craft breweries are producing all-Palisade® pale ales and IPA's.

U.S. Perle (6 - 9.5%) - Derived from English Northern Brewer, new to the U.S. industry. Minty bittering and good "green hop" aromas. All non-Pilsner Lagers and Wheats.

U.S. Saaz (6.3 -7%) - U.S. equivalent of the Czech variety, but lacks some of the fineness of aroma. Typically higher alpha acid than CZ grown Saaz. Used for finishing, very flavorful. Pilsners, Continental Lagers and Wheats.

Santiam (5.5 - 7%) - It is a triploid hop resulting from a cross between the German Tettanager and a selected triploid male with a Hallertauer MF. Santiam is an excellent aroma variety. Brewers will find this as an excellent replacement of German Tettang. American Lagers, German Lagers and Ales, and Wheat beers.

Simcoe® (12 -14%) - A dual-purpose, unique American hybrid. Although it is primarily a bittering hop, it has a clean, pine-like aroma and flavoring with a slight hint of citrus. The flavor is believed superior due to low cohumulone levels. It is less astringent than other pine-like hops and has been highly sought after to make distinctive and unique Pale Ales like Weyerbacher Double Simcoe® IPA.

Sorachi Ace (10 - 16%) - An extremely unique high alpha aroma variety with great bittering characteristics. Lemon aroma with slight dill. Developed for Sapporo Breweries and used in their beers. The pedigree includes Brewer's Gold and Saaz. Use in beers where a lemony character will fit- Belgian Pale, IPA Wit, Belgian Saison.

U.S. Spalt (3 - 6%) - Traditional German noble hop from the Spalter region south of Nuremburg. Woody. Medium intensity and pleasant hoppy qualities. Medium-strong aroma with wild American tones. Best substitutions are for Tettanager and Saaz. Beer styles: German Lagers.

Sterling (6 - 9%) - Released in 1998, Sterling has an aroma that is herbal and spicy with a hint of citrus. Perceived to be similar to Saaz and Mt Hood. Best substitution is for Czech Saaz. Beer Styles: Pilsner, other Lagers, Belgian-Style Ales.

Summit™ (16 - 19%) - Cross pollination of Lexus, and an unspecified male; derived from numerous plants including Zeus, Nugget & male USDA varieties. High alpha aroma hop with a distinctive spiciness, earthy, onion, garlic, & citrus characteristics. IPA, Pale Ale, Imperial Pale Ale. Possible subs: Columbus, Warrior®, Millennium

Tettnang (4 – 5%) - Commercially grown in the U.S. since the 1980's. Similar to Fuggle. A very popular hop with the craft-brewery industry. Used for Lagers, U.S. Ales, Pilsners, U.S. Wheats and Bitters.

Vanguard (5.5 - 6%) – A hybrid pedigree derived from a Hallertau Mittlefruh accession. It is increasingly more common in the craft beer industry. Vanguard is a substitution for Hallertau, Hersbrucker, Mt Hood and Liberty. Beer Styles: Lager, Pilsner, Bock, Kolsch, Wheat, Munich Helles.

Warrior® (15 - 17%) - A general-purpose bittering hop that offers a neutral, clean bittering primarily in ale styles. Alpha acids are in the range of 15% to 17%. It has a relative low cohumulone content which contributes to a smooth, pleasing bitterness. This is a relatively new variety that has gained popularity in hoppy American Ales.

Willamette (3.5 - 6%) - A quality aroma hop with a smooth soft flavor. Can be used for ales and lagers. Used for finishing, dry hopping. American and British Ales.

Zythos™ (10.9%) - A proprietary hop blend created to embody the powerful tradition and aroma you expect from your finest ales and IPA brews. With targeted brewing values of 11.9% alpha and 5.0% beta, ZYTHOS is an IPA style blend created to optimize and exceed the aroma characteristics you require. ZYTHOS is not a replacement for proprietary varieties, but rather a premium pellet blend that will compliment your current IPA and Pale Ale brews.

IMPORTED

Argentine Cascade (3.2%) - These are NOT Cascades! Through translation the name is the same but they are not to be used as an alternative for U.S. Cascade. That being said, these are perfectly fine aroma hops. Versatile hop but more of an aroma or finishing hop and can be adequately substituted for Tettnang or Spalt.

AU Galaxy (13.5 – 14.8%) – A dual purpose hop developed and grown solely in Australia. Distinctive citrus and passionfruit character. Often used as a late addition for flavor and aroma. Possible Sub: Citra. Use in IPA & Double IPA.

AU Helga (4.9 – 6.3%) – Formerly known as Southern Hallertau. Fine aroma hop produced exclusively in Tasmania, from the German cultivar Hallertau Mittelfruh. Ideal Australian hop to provide your beer with typical European hop character. Delicate floral and herbal aroma makes Helga excellent for use in malt driven ales & lagers.

AU Pride of Ringwood (9 – 10.5%) – Related to English cultivar Pride of Kent, commercially grown since the 60's. This Australian bred bitter variety has a pleasant hop aroma. Used extensively for early & late kettle hop additions. Imparts a unique Australian flavor to beer.

AU Stella (14 – 16%) – Newly developed aroma hop. Floral notes with subtle hints of anise and a satisfying fullness on the palate. Reminiscent of, but distinctly different in character to noble European varieties and provides a contrast to the citrus & tropical fruit flavors of many modern hops. With a high alpha acid, Stella is an aroma hop with options. Use in Pilsners, Lagers, or as an aroma hop in a wide variety of styles.

AU Super Pride – (13.5 – 15%) Commercial production began in 1998 and it is now one of the most widely planted varieties in Australia. A seedless high alpha acid variety bred from Pride of Ringwood, Super Pride features similar mild aromas and low cohumulone levels. Excellent bittering hop accepted by many major breweries.

AU Sylva – (4 – 7%) – Means “of the forest”, formerly known as southern Saaz. A true Australian aroma hop with a bohemian accent.. Can be used in a range of beer styles but specifically developed as an Australian grown fine aroma hop for application in the popular pale lager style. Hop aroma is complex yet subtle with floral notes & well rounded herbal characters, which are reminiscent of forest floor & fresh sawn timber.

AU Topaz – (15 – 18%) – Originally sold primarily for alpha acid, Topaz' flavor potential went unnoticed for some time. When used as a late addition, it is capable of contributing very pleasant light tropical fruit characters (lychee), overlying a satisfying earthy background. Dry hopping results in a more resinous, grassy character which remains very approachable. Flavor contribution by Topaz depends on the specific combination of malt, yeast, brewing and fermentation conditions used. Lighter tropical fruit characters more pronounced in higher gravity brews.

BELG Admiral (Organic, 13.5%) -Admiral offers both high alpha acid for bittering and a strong hoppy aroma. The aroma is an astonishingly strong fruity and sweet aroma perfect for hoppy ales. Admiral gives a citrusy sweet flavor with hints of apricot and orange to most brews which is well suited to hoppy beers especially IPA. This is the hop to use for beers wanting a strong hop nose and a well rounded bitterness. Very good in recipes calling for Amarillo, Cascade, Centennial, Challenger, or Chinook.

CZ Saaz (2 - 5%) - Traditionally used for European lager type beers, they have now been used successfully in the UK imparting that earthy lager hop flavour found in the Czech version of Budweiser. Classical noble aroma hop with long and strong traditions. Used for finishing. Associated with the renowned Pilsener Lager, also good in Bohemian-style beers, Continental Lagers, Wheats, Pilsner Lagers.

FR Strisselspalt (3 - 5%) – This is a major aroma hop from the Alsace area in France. The aroma has a medium intensity, pleasant and hoppy. It is a good to very good aroma hop that can be substituted for Mt Hood, Crystal or Hersbruck. Beer Styles: Pilsner, Lager, Wheat.

GR Hallertau (3.5 – 5.5%) - Traditionally a superior German aroma hop. Excellent flavor. Mild to semi-strong aroma, versatile bittering and finishing. Used for Wheats, Altbiers, Pilsners, Belgian Ales, American and German Lagers.

GR Herkules (12 - 17%) - New high alpha hop variety released in 2005, originating from a cross between “Hallertauer Taurus” x “PM-resistant Hüll male breeding line”. Bittering hop. Aroma with medium intensity, evenly distributed impressions. Use in Pilsners, German style Lagers & Alt. Possible subs: high alpha varieties.

GR Hersbrucker (3 – 5.5%) - Traditional German landrace variety selected in the Hersbruck area. Good to very good aroma hop. Used for Lagers, Pilsners, Bocks, Weizen Bocks, Wheats, Belgian-Style Ales, Kolsch and Munich Helles.

GR Merkur (12 - 15%) - A Hallertauer Magnum cross. Has a low cohumulone content (17-22 %). Bittering hop with strong aroma with earthy floral & spicy tones. German & American Lagers. Possible subs: German Magnum, German Tradition.

GR Opal (Organic, 6.6%) - This is a new German hop from the German research center Hüll that exhibits excellent aroma characteristics combined with a respectable alpha acid level. Opal is a European jewel which has a sweet spice, slightly peppery aroma and flavor combined with a light clean citrus fruit aroma. Will do well in German wheat beers, summer ales, Helles, light European lagers, light ales, Saisons, and Belgian ales. A good substitute for East Kent Goldings, Styrian Goldings, or Tettnanger.

GR Perle (7 - 9.5%) - Bred at the Hull Hop Research Institute from the English Northern Brewer variety. Dual-purpose hop. Often used in combination with other hops. Spicy and slightly floral/fruity. Used for Pale Ales, Porters, Lagers. Substitutes: Hallertau, Mount Hood, Liberty.

GR Saphir (2 - 4.5%) - This is a relatively unknown but up and coming new breed of hop that is starting to replace the Hallertauer Mittlefrueh variety which has become more and more susceptible to disease and pests. Shares many of the Hallertauer Mittlefrueh characteristics and with a low alpha acid content is very well suited as an aroma hop for the finest European style lagers. The Saphir is a true jewel in the noble hop family and has a refined aroma and a mild flavor. This hop is distinguished by a sweet and clean citrus aroma that has a hint of tangerine. Try this in your finest German lagers, Pilsners, Belgian White, or even an English mild ale.

GR Spalt Select (2.0%) – Select was bred from Hallertau Mittlefrueh and Spalt to be part of the Spalt/Tettnang/Saaz group. It has a very fine Spalter type aroma. Select can be substituted for US Saaz, US Tettnang, German Spalt, German Tettnang and German Hersbrucker. Beer Styles: any beer where noble aroma is wanted.

GR Tettnang (3.5 - 5.5%) - Traditional German variety developed in the area of the same name. Very fine or noble aroma hop. Used for German Lagers, Wheat, Ales and American Lagers.

GR Tradition (5 - 7%) - Tradition is a close descendent of Hallertau Mittlefrueh with a very fine aroma similar to Hallertau. Aroma has a medium intensity, and floral & herbal tones. Lager, Pilsner, Bock, Wheat, Weizen. Good substitution for Liberty and Hallertau.

NZ Cascade (Organic, 8.6%) - 8% Avg. Alpha. A relatively new addition to the world's selection of organic hops. The New Zealand Cascade hops retain the dominant characteristics of this extremely popular hop. This is a fresh, very aromatic hop that is popular in American style ales as well as English and Australian Ales. Excellent for dry hopping. Bred from Cascade rootstock hybridized with organic New Zealand stock. A good substitute for American Cascade, Centennial, Amarillo, or Columbus.

NZ Green Bullet (11 - 14%) – A flagship within the New Zealand brewing industry, this hop has contributed to several International Brewing Industry awards. Known as a “utility brewhouse workhorse”. Typically used as a bittering hop in Lagers but the subtle spiciness would do well in a pint of bitter or an Irish Style Dry Stout. Works well when used with Fuggles and Willamette.

NZ Motueka (6.5 - 7.5%) - Saazer parentage. Lemon and lime followed by a background of tropical fruit. It imparts a balanced bitterness as well as a desirable new world “noble” type aroma. Unique aroma and flavor making it suitable for producing bigger more traditional style Lagers, especially Bohemian Pilsener. Excellent when employed in multiple additions from a single hop bill and sits well on the palate to balance specialty malt sweetness. An excellent variety for Belgian Ales and gives a real edge to Cask Bitter.

NZ Nelson Sauvignon (12 – 13%) – Released in 2000. The essential oil profile displays fresh crushed gooseberries, a descriptor often used for the grape variety Sauvignon Blanc, giving rise to this variety’s name. Has the ability to impart a distinctive cool climate white wine fruitiness. Dual-use hop that can be used to produce big punchy Ales or subtle yet bitter lagers. Excellent for use in seasonal beers.

NZ Pacific Gem (Organic, 16%) - New Zealand is an excellent place to grow organic hops because none of the usual hop diseases and pests such as downy mildew. One of the methods employed by New Zealand organic hop farmers to reduce pest damage is to send sheep into the hop row to defoliate the lower branches. This also provides a source of fertilizer for the plants. Pacific Gem is a very high alpha hop with a pleasant citrus aroma good for bitters and dark beers. Some brewers have reported that Pacific Gem provides a subtle "blackberry" flavor/taste, which is a popular characteristic for English bitters and stouts. With its good clean bittering character, Pacific Gem is a good substitute for Magnum, Millennium, Nugget, or Columbus hops.

NZ Pacific Hallertau (5 – 6%) – Geographic distant relative to the Hallertau family of hops grown in Germany. Bred using Hallertau Mittelfreu and open pollination. Released in 1994. Variety that displays classic Hallertau citrus and floral aroma. Imparts an orange marmalade character when used in late hop additions.

NZ Pacific Jade (13.3%) - Suited for use as a bittering or flavoring hop with a bold aroma that delivers a herbal infusion of fresh citrus and crushed black pepper. Used as a finishing hop to temper malt sweetness in Ales or to balance dryer Lager styles when used as an "up-front" kettle addition to showcase its bittering qualities.

NZ Wakatu (6.5 – 8.5%) – Formerly known as Hallertau Aroma, Bred from Hallertau Mittelfreuh. Restrained floral character atop an aroma of freshly zested lime. True dual purpose hop with enviable alpha:beta ratio. Measures up on flavor scores as well as flavor stability trials. Often used in International Premium Lagers.

SLOV Aurora (7.5 - 9%) - Aurora, known also as Super Styrian, is a diploid hybrid between Northern Brewer and a TG seedling of unknown origin. Has an intense and pleasant hoppy aroma. It can be used in all ales and judiciously in some lagers.

SLOV Bobek (3.5 - 7%) - Bobek is a diploid hybrid between Northern Brewer and a TG seedling of unknown origin. A world-renowned mild, excellent, coupled with moderate bitterness, widespread usage in both ale and lager brewing. English style Ale, ESB, Lager, Pilsner

SLOV Celeia (3.5 - 7.5%) - Celeia is a triploid hybrid between autotetraploid Styrian Golding and 105/58 hybrid between Aurora (Super Styrian) and a Slovenian wild hop. An aroma hop variety of high quality with excellent bitterness and aroma, widespread usage in both ale and lager brewing. English style Ale, ESB, Lager, Pilsner.

SLOV Styrian Goldings (4.5 - 6%) - An ecotype of Fuggles grown in Slovenia, this is a world-renowned aroma hop with widespread usage in both ale and lager brewing. Used for English-Style Ales, ESB, Bitter, and Lagers.

UK Challenger (6.5 - 8.5%) - English hop. Introduced in 1972. Very popular dual-purpose hop in English ales. Used in many traditional English Bitters. Substitutes: East Kent Goldings, Phoenix, Styrian Goldings, British Columbian Goldings

UK Fuggle (3.5 - 5.5%) - The cultivar was first grown in Kent in 1875 by Richard Fuggle. This hop imparts a mild vegetal, woody, or earthy aroma. Good to use in most any traditional English style, esp. Pale Ale, porter. Similar Hops : U.S. Fuggle, Willamette, Styrian Golding.

UK Kent Golding (4 - 6%) - Traditional Old English hop. Developed by clonal selection from 1790 on starting from Canterbury Whitebine. Classic English ale hop used for kettle hopping and dry hopping. All English Style Ales, ESB's and Bitters.

UK Phoenix (8 - 12%) - Phoenix was bred to be a replacement for Challenger. It has an unusually high oil content; some samples contain as much as 3% oil. The oil gives a very pleasant, attractive English aroma that has received favorable comments from brewers who find it similar to Challenger. High alpha-acid makes it a crisp clean bittering hop. Has a mild aroma and slightly spicy flavor. Ales.

UK Pilgrim (9 - 13%) - In brewing trials Pilgrim performed well as a replacement for high alpha or dual purpose hops. Profile similar to "Pioneer". Because of its alpha it has been compared to Target more than any other variety, but with a much hoppier aroma. Great bittering as well as finishing hop . Aroma is distinctively hoppy with pleasant lemon tones. Ales. Possible subs: Target, Challenger

UK Progress (4 - 7%) - Seedling of WGV, Progress was originally introduced as a replacement for Fuggle and has very similar characteristics. Slightly sweeter and with a slightly softer bitterness it is has excellent potential at both the start and end of the boil. Use for Ale, Bitter, ESB, Porter. Possible subs: UK Kent, Fuggle

UK Target (9.5 - 12.5%) – Second generation selection from Northern Brewer and a male English Golding seedling. Target has a pleasant but intense English hop aroma. Subs: Fuggle and Willamette. Used for British Ales and Lagers.

UK WGV (5.5 - 7%) - Bred in 1911, a Goldings relation and promoted for its flavour and disease resistant qualities. It provides a distinctive sweet fruit flavour similar to, but generally more pronounced than Goldings. Best suited to pale ales, light bitters and wheat beers. It gives a mild, clean bitterness in traditional ales, and is sometimes used with good effect as a distinctive dry hop. Possible subs: UK Kent, UK Progress.

N.B.: We've gathered this information from various sources on the web. References were cross-checked to make a best attempt at accuracy. Here's a listing of some sources we found to be helpful in compiling this list:

<http://www.ldcarlson.com/public%20catalog/Chapter%2003.htm>

<http://www.hopunion.com>

<http://beeradvocate.com/beer/101/hops>

<http://www.yakimachief.com/hopvarieties/ycivarieties.pdf>

<http://www.wellhopped.co.uk/Variety.asp>

<http://www.hopsfromengland.com/>

http://www.schiesshouse.com/hop_properties_chart.htm

http://en.wikipedia.org/wiki/List_of_hop_varieties

<http://www.brew-dudes.com/>

<http://www.usahops.org/>

<http://www.hops.com.au/>

<http://www.nzhops.co.nz/>