

HOME IS WHERE THE HOP IS

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Prep the Growing Space

- Space Needed –The more space, the better! 2-3ft deep x 2-3ft wide would be advisable minimum space
- Sun Exposure - Hops grow best in full sun and you should pick a spot with the best possible southern exposure.
- Soil Preparation
 - Composition - Hops thrive in light-textured, well-drained soil with a pH of 6.0-8.0. If drainage is a problem, you may build mounds using the surrounding topsoil mixed with drainage-aiding material. Hop plants can't take up nutrients in sufficient quantities without soil oxygen being present – hence the importance of non-compacted soil.
- Nutrients –
 - Potassium (K) - Potassium is key to nearly every process of the plant dealing with growth and reproduction including protein and photosynthesis, and enzyme activation. Plants lacking Potassium are less tolerant to any of the extremes including excessive water or drought, insects, or mildew and fungus. It can effect nearly every attribute of the harvested hops including yield, aroma, flavor.
 - Nitrogen (N) – A lack of Nitrogen is one of the leading causes for poor plant growth. It is a major component of chlorophyll which is responsible for converting water and carbon dioxide into sugars through photosynthesis.
 - Phosphorous (P) - Phosphorous is critical to the storage and transfer of energy for the plant. Lack of Phosphorous will be evident in slow growing and stunted bines and leaves.
- Ground vs. Pots
 - Pots – If you have to use a pot, use the BIGGEST one you can find!

Trellis Setups

- House Eve Trellis
 - Use the highest point of roof eve as point of attachment and incorporate pulley if possible
- Flag Pole Trellis
 - Can create a teepee with built in pulley system
- Clothes-line Style Trellis
 - Create a T with a variety of materials and sting from ground to T
- Arbor/Patio Cover
 - Can grow up and over
- Commercial-style Trellis
 - 12-18ft poles strung together
- Store-bought Trellis
 - Limited by size

Available Rhizomes

HOP	AA%	USE	FLAVOR/AROMA	YIELD	LINEAGE
Cascade	5-9	Aroma	floral, spicy and citrus	High	Cross between Fuggle and the Russian hop Serebrianka
Centennial	7-12	Aroma	lemon and floral	Medium	Brewer's Gold and a selected USDA male
Chinook	11-15	Dual	grapefruit, spice, and pine.	Medium-High	Petham Golding and a select US male
Crystal	3-6	Aroma	lemon, floral	Medium	Triploid Hallertau varieties - half-sister to Mt. Hood, Liberty & Ultra
CTZ	12-18	Bittering	green onion, pine, subtle citrus	Medium-High	Descendant of Nugget
Fuggle	3-6	Aroma	wood, grass, and mint	Low to Medium	English landrace variety
Golding	3-6	Aroma	earthy, floral	High	Clonal selection from 1790
Hallertau	3-5	Aroma	floral, citrus, spicy	Medium	Major Hallertau landrace variety
Liberty	4-6	Aroma	Floral, spicy	Medium	Triploid Hallertau varieties
Magnum	12-15	Bittering	subtle spice and fruit	High	Bred at the Hop Research Center in Hüll in 1980 and released in 1993
Mt. Hood	4-7	Aroma	spicy, herbal	Medium-High	Triploid seedling of the German Hallertau variety
Newport	10-15	Bittering	earthy, citrus	Large	Descendant of Magnum
Northern Brewer	7-10	Dual	evergreen, woody, mint	Medium-High	Bred in England in 1934 from a Canterbury Golding plant and male seedling of Brewer's Gold
Nugget	13-16	Dual	herbal, Spicy, subtle citrus	High	Brewer's Gold and a high alpha-acid male
Perle	6-9	Dual	floral, spicy, minty	Medium	Cross between Northern Brewer and 63/5/27M
Saaz	2-5	Aroma	floral, citrus, spicy	Low	Landrace variety from Saaz region - 1400's
Sorachi Ace	11-15	Dual	lemon, lime, dill	Medium	Sapporo Breweries Hop Farm in China
Spalt	2-6	Aroma	noble, floral	Medium	Landrace variety originating from the Spalt region in Southern Germany
Sterling	5-9	Aroma	floral, noble, spicy	Medium	1/2 Saaz, 1/4 Cascade, 1/8 64035M, 1/16 Brewers Gold, 1/32 Early Green, and 1/32 unknown.
Tettnanger	3-6	Aroma	spicy, pepper, floral	Low - medium	Traditional landrace variety from Germany
Ultra	2-5	Aroma	floral, spicy	Medium	Triploid seedling of the Hallertauer variety
Willamette	4-7	Aroma	floral, elderberry, earthy	Medium	Seedling of the English Fuggle

Planting the Rhizomes

- Plant Rhizomes in April-May (depending on location and temperature).
- Spacing -
 - Separate different varieties by 5 feet to prevent tangling. You can plant hops of the same variety as close as 3 feet.
- Depth -
 - Allow for deep rooting. The roots can extend up to a depth of 15 feet. This yearning for the deep takes away from the first years production, but allows for the plant to thrive when other plants are suffering from drought.
- String -
 - Bailing twine, coconut husk twine, polypropylene string, wire, hemp

Maintaining Your Hops

- **Watering** - First year hops have a minimal root system, and the soil should not be allowed to remain dry for prolonged periods. Frequent, but short watering is best. You may also add mulch to the soil surface with organic matter to conserve moisture and control weeds.
- **New Growth** - When the shoots reach 1 foot, they should be supported to stay off the ground to prevent disease and pests. When the bines reach 2 feet select the 2-4 strongest bines, and clip the remaining to ground level
- **Nutrients** - Apply organic manures early spring and postharvest; with top applied mulches and composts utilized during the growing season.
- **Pests** – Green worms, spider mites, aphids, slugs, and Japanese beetles
 - Neem oil, permethrin, and dish soap are all non-toxic options. DE or beer for slugs
- **Pruning** – Trim growth on lower sections of bines to aid in airflow

Harvesting Your Hops

- When are They Done?
 - Cones will have a papery and slightly crunchy texture to them
 - Lupulin will be present and dark yellow
 - Don't wait until they start yellowing or browning
- Picking
 - Use scissors or shears to avoid disturbing lupulin or cone structure
 - It is possible to get 3 or 4 harvests per year by picking the biggest, most mature hops every two weeks or, as the cones ripen.
- Wet hops
 - Will need 6x the weight of dried hops when using wet hops
 - Focuses on aroma more than bitterness



Drying, Packaging, and Storage

- Drying
 - Spread out on surface that allows for significant airflow
 - Clean house screens and new furnace filters over a box fan work very well. Can also use or build drying racks or other VERY breathable equipment
 - Try to achieve about 7-10 percent residual moisture after drying.
- Packaging
 - Flush with Co2/Nitrogen & use vacuum sealer
- Storing
 - Store as cold as possible, as warmer temperatures will degrade hops faster
 - Store in dark space, as light will degrade hops faster

Post-Harvest Care

- Let the plants do their thing until they start turning with the season
- Trim bines to ground level and apply a layer of three or four inches of mulch, compost, and/or manure for insulation and nutrition
 - Shredded hop leaves/vines make for good mulch
- Dig around the hop plant to eliminate any roots that may spread out
- Ensure ground remains well drained to prevent root rot
- Remove twine/strings and ensure trellis will withstand winter storms

Harvesting Rhizomes



- Dig up hop rhizomes in March
- Hops plants produce two types of roots, feeders and rhizomes. Only the true roots are feeders, the rest of the root structure is for propagation and provides very little in the help of the uptake of soil nutrients.
- Rhizomes look like root cuttings but have small buds growing from them that will become new vines. Rhizomes also contain stored nutrients to support initial growth.
- Keep them in a moist, cool place (ziploc bag with damp paper towel, in fridge)
- Plant in late March/Early April

Where to Buy Rhizomes

- www.freshops.com
- www.hopsdirect.com
- www.northwesthops.com
- www.midwestsupplies.com
 - www.morebeer.com
 - www.homebrewing.org
 - www.thymegarden.com
- www.willamettevalleyhops.com
 - www.highhops.net
- www.americanbrewmaster.com
- www.thebeeressentials.com
- www.gorstvalleyhops.com