



HOP RHIZOME INFO SHEET

The Hop plant (*Humulus lupulus*) is a vigorous perennial bine which is grown from rhizomes to ensure new plants are clones of the parent plant variety. The Hop plant is dioecious, meaning there are female and male plants with different flowers on each. Only the female Hop plant produces the cones that are harvested and should remain unpollinated. Hop plants are 'bines' which use their entire body to wrap around stings, poles or anything that it can climb. (Vines use tendrils to climb).

Hop bines die back to the ground in winter, but the rhizomes and roots in "the crown" will lie dormant until the next spring and live for 20+ years with proper care and maintenance. A Hop plant will reach maturity in about 3 years and will be a joy to watch grow every year.

SITE SELECTION

Hops require large amounts of sunshine, water, and nitrogen/nutrients to grow best.

Select a very sunny location that allows for vigorous climbing such as near a fence, wall or trellis. Hop bines need to climb and can reach heights of 25 feet in a single season when mature. The hops can be trained to climb horizontally on a fence, but they really want to climb up.

Hop Rhizomes are harvested from mature plant crowns in March. The rhizomes can survive well in the fridge for weeks when placed in a ziplock bag containing a damp paper towel to assist with moisture control. Even before the last hard frost date is past, get the rhizome into the ground, just cover the plant (even if it is undergrown still) during any spring frosts.

PLANTING

Plant the Hop rhizome 1-2 inches under loose, rich, well-drained soil. Add compost and manure before planting if the soil has a lot of clay in it. When planting, lay the rhizome flat or with one end angled down deeper in the soil.... with buds/sprouts facing up and root hairs facing down as much as possible.

Coir twine (made from coconut husk fiber) is used in high trellis systems on commercial hop yards and is available in 20 foot strings (search the internet). Natural fiber baling twine can be used in the first year of a Hop plants life, but do not expect it to be strong enough for mature plants (years 2+) that can weigh 20lbs and be affected by wind.

WATERING

Water your first year Hop plant daily throughout the growing season. Keep the ground moist, but not waterlogged. Covering the hop crown with a couple inches of fresh clean straw during the growing/watering season will help retain moisture and prevent the soil from forming a hard crust that prevents water from soaking in when applied. Deep watering every few days will be sufficient for mature Hop plants. Keep watering Hop plants into the fall... even after harvest... until the winter freeze.

TRAINING

Once the Hop vines are about 3 feet long, train them carefully, **CLOCKWISE**, by hand around the string you intend them to climb. Let all of the first year Hop vines grow in order to build a robust root system.

After the first year, a grower should prune most of the Hop crown vines back to the ground so only one or two vines grow up single string during a season. 2 strings can be used for single mature Hop plant crown if there is space overhead. After selecting the vines to train up the strings, remove the later growth/vines that the Hop crown produces so that the plant's energy goes into the trained vines. In mid-summer, carefully strip off by hand the bottom 4 feet of the trained vines of all leaves and branches to increase air movement and prevent disease (molds/fungus). Continue to train the vines (to keep them on the string) as needed throughout the season, but eventually they will stay on.

PICKING

In August and September and depending on the variety, pick the Hop cones off the vine when they begin to feel dry (like parchment paper), the aroma is strong, and the yellow lupulin inside the cone (where the bract/leaf meets the string/cone center) has started forming little balls. As harvest time approaches take a look at the cone interior by ripping a few cones apart. When harvesting, only pick the cones and not the leaves.

It's common to cut down the entire hop vine in order to pick the cones. After harvest, let the lower foliage regrow to aid in the plant's preparation for winter.

DRYING

Dry the Hop cones on a window screen in a hot dry room with a low speed fan moving air around them (caution: as they dry, the Hop cones may blow around on the screen). Cones can be dried in a food dehydrator or oven, but **DO NOT** dry the hop cones in direct sunlight or at temperatures over 140 degrees as this will destroy the oils and qualities of the Hop needed in brewing.

The inside center of the cone takes longer to dry than the outside. the outside bracts will feel dry much sooner than the center will actually achieve adequate moisture loss. A good indicator of drying success is when the center of the hop cone, the "strig" breaks and no longer feels moist when placed against a person's dry lip. Once the cones are completely dry (10% moisture is the target, they start out at 65-75% moisture and will feel **VERY** dry when truly dry) vacuum seal and keep in a cool, dark dry place until use.

OTHER INFORMATION

Don't plant hops too closely to other plants because hops can be invasive. Hops do not typically "choke out" or kill other plantings but will overgrow on top of them.

Although there are no thorns, hops can be irritating to some people and cause a rash on bare skin. There are little hairs all along the hop vines that allow it grip the string or pole it is climbing. Gloves and long sleeves will protect the skin while working with hops.

Hop vines grow straight up until around the summer solstice, at which time they start to put out lateral arms (most on the upper portion of the vine) from which will come the small flowers which will turn into the hop cone.

Hop vines wrap clockwise in the northern hemisphere because they follow the sun as it travels east to west.

Hop vines grow up during the day and may appear loose on the string, but at night.. the hop vine contracts around the string providing a strong foundation for the next days growth. This is cool stuff.

Hops do not need or want pollination.

Colorado Hop yards can benefit from using poly-weave weed suppressant fabric such as Lumite to prevent weeds around the hop crown and also helps retain the ground around the plants. It can add cost, but reduces a lot of headaches trying to maintain a clean and prosperous Hop yard. Check out <http://americanclayworks.net/> for weed suppressant fabrics and other hopyard supplies.

Cow manure is the best manure for the hop yard, in my opinion. Horse manure has a lot of fiber to break up clay, but it also usually comes with a lot of weed seeds. Chicken manure is too acidic if not composted. Certified Yeti manure is prohibitively expensive and hard to find. [?]

Ambient light at night may affect the Hop plants ability to know when to put flowers/cones out. Common sense says; don't plant it under a streetlight that is on all night.

Spider Mites and Aphids are the most common pest threat to hops in Colorado. Spider mites are more destructive in hot dusty environments so try not to plant your hops where a dirt road will constantly throw dust onto the plants. Natural, mild chemical methods are available to kill these tiny pests before they literally sap the moisture/energy from the plant if they are present in large numbers. Search the internet for more info on pest control, but know that lady bugs, lacewings, and praying mantis are your friends... along with more other predator bugs (spiders...) than you might think.

You can hops grow in large containers, but Hops don't thrive in pots the same way they will in the ground and may not survive the winter. Hops don't make a good addition to your window sill garden.

Have fun growing these amazing plants!]

There are now lots of good Websites with Good Hop Growing Information , check YouTube also.

<http://www.growinghopsyourself.com/growing-hops/growing-hops-beer-hops/>

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