

# GROWING HOPS

Official NORTHERN BREWER Instructional Document



**A HOP RHIZOME IS A CUTTING OF THE FEMALE, CONE-PRODUCING HOP PLANT. HOPS CAN BE PLANTED ALMOST ANYWHERE IN THE CONTINENTAL UNITED STATES, AND THEY REQUIRE 120 FROST-FREE DAYS TO PRODUCE FULLY-RIPE FLOWERS. UNDER GOOD CONDITIONS, YOU CAN YIELD UP TO TWO POUNDS OF HOPS PER VINE.**

## PLANTING THE RHIZOME

Plant the rhizome once the soil is workable. Hops can normally survive a frost, so long as the ground does not freeze solid. Your hop vines should ideally break ground with the first spring flowers.

Keep rhizomes refrigerated until the soil is ready for planting. Do not let rhizomes get completely dry, and do not keep them too wet. To keep rhizomes moist, mist them regularly.

Choose a good location for growing the hops. Hops prefer a southern exposure, with as much sunlight as possible. 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 organic matter. Urban growers should ensure the hops are not in the immediate vicinity of a strong 24-hour light source, as this will prevent flowering.

Dig a hole about one foot deep. To fertilize, mix the soil with manure and other slow release organic fertilizers such as cottonseed meal, bone meal or rock phosphate. Return the fertilized soil to the hole.

Plant the rhizome horizontally about 1-inch below the surface of the soil. Rhizomes can also be planted vertically, with the buds pointing up.

Separate different varieties by 5 feet to prevent tangling. You can plant hops of the same variety as close as 3 feet.

First year hops have a minimal root system, and the soil should not be allowed to remain dry for prolonged periods. Frequent, short waterings are best. You may also mulch the soil surface with organic matter to conserve moisture and control weeds.

After the hop vines are one foot long, select the heartiest 2-3 vines and wrap them clockwise around a trellis or support. Prune all subsequent vines from the base of the hop.

## TRELLIS/SUPPORT SYSTEM

For the first year, the support system can be a thin 8-foot stake. In subsequent years, you will need a taller support system. In comparison, a commercial trellis is 18 feet tall. Home growers can use a shorter trellis of 10-12 feet. You may also drop twine from a tree, pole, or house roof. Ensure the twine is taut and strong, as mature hop vines are quite heavy.

## SUBSEQUENT YEARS

Hops will die back to the permanent root stock (crown) each fall. The crown is hearty, and relatively unaffected by even the deepest winter freeze. Hop vines break ground at about the same time the earliest spring flowers appear. Hops grow back much stronger after they have developed a good root system. Prune the earliest shoots back to the ground to encourage heartier second growth.

## HARVEST AND DRYING

Hops should be harvested before the first frost. The actual date will vary depending on your location, but mid-August to mid-September is most common. Hops are ready to harvest when the aroma is strongest. Test the aroma by smelling a crushed hop cone. As you squeeze a mature hop between your fingers, you should notice a yellow powder from the lupulin glands. Ripe cones will feel dry and papery. With some varieties the color will be lighter. Slight browning of the lower bracts of the cone is normal, and a good sign of maturity.

Lower the hop vine to the ground to begin the harvest. Pick only the cones, not the leaf material. Dry hops before usage or storage. In dry weather, air-drying is preferable. Spread them shallowly onto a window screen, and keep them out of direct sunlight. Every day you should "fluff" the hops to bring moist hops to the outside of the pile. The hops are dry when the inner stem of the hops is brittle. It should break rather than bend. If you must dry hops with a food dehydrator or in the oven, keep the temperatures under 140 degrees.

Store hops away from oxygen. Most home growers don't have access to oxygen-barrier bags and vacuum sealers, so the best compromise is to pack as many hops as possible into a ziplock-style freezer bag. Squeeze them tight to remove as much air as possible and seal the bag. Store hops frozen until used.

## USAGE

Homegrown hops are typically used for aroma, flavor or dry hopping. Since precise alpha acids are not known, it is a challenge to use them for bittering. A few test batches may be necessary to get the feel for the potency of the hop. Use homegrown hops in the same quantity (by weight) as commercial hops. Leaf hop utilization is about 15% less than pellets.