



**Midwest Homebrewing & Winemaking Supplies**  
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## I've got my hop rhizomes, now what?



Growing hop rhizomes is truly something special. Being able to add an ingredient that you've grown yourself is not something that every homebrewer can claim. Plus, you can't get any fresher than going out in your back yard and picking your own hops. Let's show you the process of planting and caring for your rhizomes.

### What is a "hop rhizome"?

A rhizome is the part of the hop plant that grows beneath the surface. It is the heart of the root system of the vine and stores and transfers food from the root system. A hop rhizome looks like a grape vine or stick, and is used to start new hops plants.



**Prepare the Hop Yard.** You may already know exactly where your new hops are going to go, if so, look-up and make sure you have 10'-20' of vertical, or trainable, climb space. If not, find an area that is full of sun, low on wind and has plenty of climbing space. You may also incorporate a trellis system.

Select where you are going to plant the rhizome and prepare the soil. Be sure it is loose and porous; compact clay style soil will result in standing water and eventually root rot and plant death will occur.

If drainage is a concern build a hop hill with soil and gravel/sand mixed in to make a looser bed. If you can grow vegetables or flowers fairly well in your soil then you should have no problem growing hops.

For the precision growers the rhizomes require a soil pH of 5.5-8.0 and a general nutrient regiment where the potassium and phosphorus are roughly double the nitrogen content. The trace mineral boron is also beneficial.

### Where should I plant a Rhizome? How much space do I need between plants?

You'll want to survey your growing area and check for a few basic things. First be aware of your vertical surroundings. Do not grow them up electrical poles. Hops cannot be grown indoors. What a lot of customers don't realize is how big a hop plant can get. It is very common for a hop plant to create vines that run for 25 feet or longer in a season. The base of the plant can grow to 9-12" in diameter. Allow more than 10' of vertical growth to ensure a well spaced vine. Less than 10' may result in bunched shoots that make them susceptible to mildew. Unless you are planning on paying attention to these plants all summer long, you might want to consider spacing them out.

There are many books that tell you to plant like varieties about 2-3 feet apart, and unlike varieties about 10 feet apart. The reason you can plant the like varieties so close together is because you are not worried about mixing up the hops on the vine. Seeing it is the same hop variety it doesn't matter if the vines tangle amongst themselves. The problem becomes the tangling of the vines. One plant can start to overtake another plant and severely impede its growth cycle. Unless you have a system set up that allows the hops to grow straight upward, we would recommend spreading them out farther. We would say at least 7-10 feet apart even for like varieties. That way your plants are able to grow strong and don't interfere with each other.

When you are dealing with different varieties of hops, make sure you plant them at least 10 feet apart. Keep in mind that the length of vine you see above Earth is also growing the same amount below Earth. We have had several of our employees grow hops and tell us that all of a sudden a shoot will appear above ground 15 feet away from the plant itself. Hops like to grow and they need a lot of room.

Over time your hop plants will mature and grow. Do not expect a lot of production the first year as the plant is trying to establish its root system. You might get some, but it probably won't be more than a few ounces. It normally takes 3-5 years for a hop plant to fully establish itself. These plants are able to get to the size of a large bush if you allow them. Make sure you have enough room around them to allow them to grow for years to come.

**HINT:** Be aware that the vines like to wrap themselves around anything they can find. If you have other plants in the area, make sure to check on your hops regularly. In the height of growing season a hop plant can grow over a foot in one day. The vines are like pythons and can suck the life out of any plant around them.

### **What type of soil is ideal for hop rhizomes?**

Rhizomes are not terribly picky. A sandy soil is a bit more ideal for proper drainage, but a mix of sand and clay soil will work just fine. Be sure there is adequate drainage as standing water will rot the roots. The pH of the soil should be between 5.5 and 8.0. Our organic gardening store sells test kits, [midwesthydroponics.com](http://midwesthydroponics.com)

### **When to Plant**

With a properly mulched hop hill, the rhizomes can withstand 20°F freezes. It is better to plant too early than too late, so as soon as you can till the ground, get them in it. If you need to await the spring thaw, store the rhizome in the refrigerator to keep it moist. Some will lightly plant the rhizome in a pot and store it in the root cellar and replant once the soil becomes workable.

Ideal planting is February - April. Since we get the rhizomes late in their planting cycle, you should plan to get them into the ground pretty quickly. They should be refrigerated in a water misted ziplock bag until they are ready to go into the ground.

You may plant the rhizomes in pots and move them into the ground in June when the ground has warmed. It's a good idea to till the ground you are planting the rhizome into, to loosen the soil and help clear any weeds.

### **Plant the Rhizome**

Dig a trench 4" deep and roughly the length of the rhizome you are planting. Look for any whitish buds on the rhizome and position them skyward. If no buds are present look for roots and place them groundward. The rhizomes should be planted horizontally, not vertically. Cover and pack by hand with soil.

### **Growing the Hops**

Watch for growth and monitor the soil. if it is dry and you aren't getting much rain, water the hill. You **can** over do it, so occasional monitoring will help keep the water needs in check.

Occasional nutrient feeding can also help increase your yield. Midwest has an Organic Gardening Section ([www.midwesthydroponics.com](http://www.midwesthydroponics.com)) that features several great organic fertilizers. We have a few good ones listed on the Rhizome section for sale.

In order to reduce crowding, cut back the weaker shoots in favor of the strongest 2-3. Crowded vines promote infestation and shade damage. Be sure to water early in the day so the leaves have a chance to dry out, mildew needs moisture and darkness to form. Also be sure the vines do not get tangled, this promotes crowding.

### **Do I need to water my hop rhizomes?**

It's a good idea to water frequently but lightly the first year. Be sure there is good drainage (no standing water). Rhizomes prefer a slightly arid condition, so do not over water them. If the ground is dry, then water the plants until the soil does not absorb the water. Hops do not like a lot of water, so don't go crazy.

### **Monitor the Hops**

Keep an eye on the hops as they grow, aphids and powdery mildew are the most common hazards in the garden.

Powdery mildew forms on the underside of the leaves in a white powdery substance. Trim the affected leaves off and completely dispose of them outside your yard (in the trash).

There are several natural pest control sprays for aphids- check out our rhizome section for pest control options.



Problems that are caught early are easier to correct.

Train the growing shoots as well, in the Northern Hemisphere they will grow clockwise vertically, give them something to climb and wrap them around it accordingly.

### **When to harvest hops**



Hops are ready to pick when the bracteole (leaves) of the hop cone start to turn papery and brown around the edges. When the hop cone is broken open, the lupulin gland should be yellow and sticky, as seen in the photo.

General guidelines for picking are as follows: When just a couple of the hop cones have their bracteole tips just turning brown, pick about a third of the hops. Then, a few days later go back and do the same. Don't wait until the hops turn brown before you pick them. Use the bracteole tip color as a guide.

Make sure the hop cones are ripe before picking a lot of them. Check for the brown leaf tips, the lupulin glands, and even taste a hop yourself to make sure you've got a hop flavor. If you harvest too soon, your hops won't have the potency you would expect and might impart a chlorophyll flavor to your beer.

### **Can I grow rhizomes indoors?**

No, hops should not be grown inside. Their roots need too much room to spread out, and a container is just not large enough to support the growth. These are not small plants when they grow. A lot of people are not familiar with what hops look like in a field, but most people know what grape vines look like. Hops grow the same way that grape vines grow. They get big, they take up space, and they need a lot of height.

A few years back we tried to grow some hops indoors as an experiment. For those that aren't aware, Midwest Supplies is also an organic and hydroponic gardening retailer. We have many (people on) staff here very good at growing herbs, tomatoes, peppers, etc. indoors. We set everything up and gave it a try. Let's just say that we ended up with a rotted-out stick by the time we were done.

Unfortunately, our customers have had the same luck. We've had several brewers try it over the years with the same luck. Hop plants are just not meant to be grown indoors. It is also not a good idea to try and "start" your hops indoors as well. Due to the timing of when we receive our hops there are several states still dealing with winter at the time. You do not want to plant hops in frozen ground. So, a lot of people ask if they should just get them started inside until the ground is warm enough to plant. Again, no, it doesn't work. Just leave the rhizome in the fridge until you can plant it outdoors. Spray the rhizome with some water every couple days and that will keep it alive. Remember that rhizomes do not need much water, so just spray enough to get it wet.

Hop rhizomes will store in the refrigerator for several months without issues. We've taken the oldest, smallest, nastiest looking rhizomes you can imagine and planted them. To our surprise, and our employees' excitement, they've grown.