



## 10 Steps to Growing Hops

### Step 1: Site Location

- Sunny location; a south-facing wall on a two-storey building that gets six to eight hours of sunshine a day is perfect.
- Sun and water are needed to result in strong, disease resistant plants.
- Air flow through the site is important, but exposure to wind can damage the ripening hop cones.
- Hops grow up to 20 feet + in one year and die back to the ground every year. (First year growth is usually only about 10 - 12 feet.)
- Place a string at least 18 feet long. Attaching to a hook at the top works well. The string needs to support plants that will weight 20 pounds when mature. Two-ply sisal twine is a good choice.
- Bines climb both by gripping with hairs and by twining. Left to their own devices, they will climb any other nearby plant.
- Plants can be grown in containers, but must not be left in the containers unprotected over the winter.

### Step 2: Prepare the Soil

- A loose, well-drained soil, not heavily nitrogenated and with good soil structure. (Good soil, plenty of compost.)
- Hops prefer a mildly acidic soil with a pH of 6.0-6.2.
- Mulch is the best method of keeping weeds down, the soil moist and increasing fertility. (Straw – let moisture and air through. Bark or Wood Chips – not recommended, robs the soil of nitrogen.)

### Step 3: Plant Rhizomes

- *Humulus lupulus* is a herbaceous hardy perennial vine. Hops crowns live for up to twenty-five years in good conditions.
- Prepare a hole about 1.5' square, with compost mixed into the soil
- Water the hole well, then plant rhizome 1" from the soil surface.
- Sprouts or buds facing up and roots down.
- Build a mound about 1' high to aid drainage. Don't let the plants themselves get wet, or let water pool around the base of the plants.
- Plants need to be spaced at least 3 - 4 feet apart.

### Step 4: Care of Plants

- In spring, the hops crown will sprout dozens of little square-stemmed shoots. These must be cut back to just 4-6 shoots for each plant.
- Top-dress liberally with well-made compost each spring.
- Apply mulch to control weeds and retain moisture.

### **Step 5: Train the Bines**

- Place a stake near the crown of the plant to attach the string to.
- Two strings can be strung in a 'V' from the top support down to each crown.
- Bines must be trained onto the twine when they are about 3' high.
- Only allow 2 or 3 bines to climb – prune all others back to ground level.
- Carefully wind the young bine around the twine in a clockwise direction (following the sun). Be careful not to break off the tip of the bine.
- Carefully wrap the bine in a clockwise fashion to follow the sun.

### **Step 6 Diseases and Insects**

- Powdery Mildew – white, powdery patches of fungal threads
- Downy Mildew – infected vines become stunted, with thickened clusters of pale, curled leaves.
- Verticillium Wilt – leaves yellow and wither, with the lower leaves turning yellow first.
- Aphids – attack leaves, stems and cones, and are capable of entirely destroying a crop.
- Red Spider Mite – tend to be more of a problem when the summer is hot and dry.

### **Step 7 Water, Monitor and Repeat**

- Check for water – wet but not too wet. If you cover with mulch and we have a wet growing season, just pull back the mulch to allow the plants to dry out a bit.
- Pull weeds around the base of the plant.
- Prune the bottom leaves, up to approximately 3 feet.
- Check for insects or diseases.

### **Step 8 Are the Cones Ready for Harvest?**

- For brewing, the useful part of the plant is the female flower or cone.
- Lupulin glands are tiny and yellow, filled with the resin containing alpha and beta acids and hop oils.
- Timing of the hops harvest is critical.
- Cones usually mature for picking between late August into September.
- The cones will lighten in colour from a rich, brilliant green to a paler shade, with some of the bottom bracts turning slightly golden.
- Lupulin will gradually change colour, darkening from a very pale gold to a dark yellow.
- <sup>a</sup> Cones go from feeling distinctly damp when squeezed to feeling light, papery and quite dry, and will become more resilient.

### **Step 9 Harvest Time**

- Hops may be picked directly from the bine while it is still attached to the trellis using a ladder or the bine can be cut down.
- If you cut the bines down to harvest, leave about 1 foot of bine to help feed the roots.
- Cones are picked by tugging from the base of the cone – do not pull on the cone itself.
- Handle each cone gently, as the lupulin can easily drop off the cones.

### **Step 10: Preparing for the next year**

- Don't cut back the last of the bines until after the first frost.
- Cover with mulch.
- In spring, uncover the mulch and cut back the first gamey growth.