



BRISTOL HOPS

3 Aylmer Road, Bristol, QC J0X 1G0
819-647-3467

www.bristolhops.ca
richard@bristolhops.ca

10 Steps to Growing Hops

Step 1: Site Location

- Sunny location; a south-facing wall that gets 6 to 8 hours of sunshine a day is perfect.
- Sun and water are needed for strong, disease resistant plants.
- Air flow through the site is important, but exposure to strong winds can damage the ripening hop cones.
- Hops can grow more than 20 feet in one year and die back to the ground every year. (First year growth is usually only about 10 to 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 weigh 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 unprotected over the winter. They will freeze and not survive. Plants grown in containers will not grow as well.**
- Different varieties must be separated by 6-8 feet at least.

Step 2: Prepare the Soil

- A loose, well-drained soil, nitrogen rich and with good soil structure. (Good soil, plenty of compost.) Hops are heavy nitrogen feeders.
- 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 to promote fertility. (Straw – lets moisture and air through. Bark or Wood Chips – not recommended, as it robs the soil of nitrogen.)

Step 3: Plant Rhizomes

- If you cannot plant the rhizomes when they arrive, keep in a cool/dark place.
- *Humulus lupulus* is a herbaceous hardy perennial vine. Hops crowns can live for up to 25 years if grown in good conditions.
- Prepare a hole about 1.5' square, with compost mixed into the soil.
- Build a mound about 6-12" high to aid drainage. Don't let the plants themselves sit in standing water, or let water pool around the base of the plants.
- Water the hole well, then plant rhizome 1" from the soil surface.
- Sprouts or buds facing the sky and roots down. (where possible)
- Plants need to be spaced at least 3 - 4 feet apart.
- Each spring trim the excess rhizomes back – otherwise they will continually spread.

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 6-8 shoots for each plant.
- Side-dress liberally with well-aged compost and/or manure each spring. Do not put directly on the crown of the plant.
- Apply additional nitrogen-rich matter during the growing season – fish emulsion is a good choice, as is chicken manure.

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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 3 or 4 bines per string 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. If a tip is broken, that bine will not continue to grow upwards.

Step 6: Diseases and Insects

- Powdery Mildew – white, powdery patches of fungal threads.
- Downy Mildew – infected vines become stunted, with 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.
- Leaf hoppers – green wedge-shaped insects, fly or disperse rapidly when disturbed.

Step 7: Water, Monitor and Repeat

- Check for water – wet but not too wet. If you cover with mulch and it is 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.
- Once the bines have reached 10-12', prune the bottom leaves, to approximately 2 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.
- 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 at least 2 feet 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 hard frost. At that point, cut the bines at ground level.
- Cover with mulch.
- In spring, uncover the mulch and cut back the first gamey growth.
- Rhizomes are only cut in the spring once the growth has started, but should not be harvested until the plants are at least 3 years old.