



Growing Garlic from Cloves

A Toronto Master Gardeners Guide



Softneck garlic bulb with one of its garlic cloves detached, ready for planting.

Photo: Helen Battersby

Garlic is not only easy to grow, it is available in several varieties, which can be nurtured, then sampled like fine wine.

Garlic varieties

There are 2 main types of garlic:

- Softnecks (*Allium sativum* var. *sativum*), which do well in mild climates and are the varieties usually sold in supermarkets. The bulbs are made up of several cloves of uniform size that surround a flexible central stalk. There are 2 varieties, Artichoke and Silverskin.
- Cold-hardy hardnecks (*A. sativum* var. *ophioscorodon*) have fewer cloves than softnecks, and these surround a hard central stalk. In Ontario, most gardeners grow hardnecks, and varieties include Rocambole, Purple Stripe and Porcelain. There are several subvarieties. Hardneck garlic produces scapes (flower stalks), while softnecks (usually) do not.

Selecting and planting garlic cloves

Garlic grows well in many spots in the garden – in raised beds, containers, among flowers or in perennial beds. Just make sure the roots have room to grow and are not crowded by roots of neighbouring plants. Choose a site in full sun with fertile, well-draining soil that has a pH in the range of 6 to 7.5. Avoid sandy soil (which dries out too easily), as well as soils prone to excessive frost heaving or those that contain lots of stones. Do not plant garlic in areas where water pools, as this could promote fungal infections. Before planting, prepare the soil by working in organic matter (e.g., compost or well-rotted manure) to a depth of 15 cm (6 in.).

Buy garlic bulbs from a local grower or other reputable supplier, not from the supermarket, as these bulbs may have been sprayed with a chemical to prevent sprouting, and/or may not be suitable for the Ontario climate.

Each large garlic bulb contains several cloves. Just before planting, separate each head into individual cloves and plant only healthy, unblemished cloves with intact (papery) skins (use smaller cloves for cooking). Plant the cloves with the pointed end up, 13-15 cm (5-6") apart and 7.5 cm (3") deep. When planting cloves in rows, leave at least 20 cm (8") between rows to make sure that the plants do not shade one another.

Plant the cloves 4-6 weeks before the soil freezes in the fall, to give the roots time to establish before winter sets in. In the greater Toronto area, this should be by the end of October. Once the ground is frozen, mulch (e.g., with chopped leaves or straw) to minimize harm from the freeze-thaw cycle.

To discourage buildup of pests or pathogens in the soil, allow at least 4 years between planting any *Allium* species (e.g., garlic, chives, leek, onion, scallion,

shallot) in the same spot. Avoid planting garlic close to beans or peas, as it may stunt their growth.

Spring tasks

In spring, remove most, but not all, of the mulch. Mulch helps minimize weeds and conserve soil moisture, but if it is too dense, it could prevent garlic shoots from breaking through.

Keep the planting area weed-free, as weeds compete with the garlic. Soil should be kept uniformly moist (not soggy), through deep watering that delivers 2.5-5 cm (1-2 in) a week. The best time to water is in the morning to mid-afternoon. Garlic roots are shallow, located within the upper 60 cm (2 feet) of soil.

If the soil is rich, there is no need to fertilize. If fertilizer is used, a first feeding of a high-nitrogen fertilizer (e.g., blood meal) is recommended early in the growing season. After this, any good vegetable fertilizer with higher phosphorus content can be used as needed.

Scapes

In mid-spring, slim green shoots will emerge, which can be clipped and used in salads or other dishes, like chives. Scapes, or flower heads, usually appear on the stalks of hardneck garlic varieties around the third week in June. Scapes divert energy away from the bulb, so many experts recommend they be snapped or cut off (anywhere from one-third to one-half from the top) once they start to curl. Eat the scapes raw or use them in cooking. Other experts have found that leaving the scape on until the bulb is harvested, or at least until it has made 2 loops, yields large, healthy bulbs. Scapes left on garlic plants will bloom and attract bees. It might be interesting to experiment by removing the scapes from some plants while leaving them on others to see whether there is a difference in yield.

Stop watering in July

From early to mid July the plants stop producing new leaves and begin to form bulbs. Remove any remaining mulch, and stop watering and fertilizing. Allow the soil to dry out, as too much water at this time can promote disease in the harvested bulbs and later in storage.

Harvest the garlic crop

Depending on the variety, the garlic should be ready to harvest in late July or early August. Harvest on a dry day when the lower half to two-thirds of the leaves have dried and turned brown (for hardneck varieties), or (with softnecks) when the plants have started to fall over.

Timing is important. Bulbs harvested too early will not have reached maximum size or flavour and will not store well, and if too late, they may have burst their skins and be vulnerable to rot. If there is any doubt, dig up a sample bulb and check to see if it is ready.

Each clove planted in the fall will yield a new bulb. Loosen the soil with a fork or trowel and gently lift each bulb. Do not wash or break the bulbs apart. Handle the bulbs gently, brushing dirt off, being careful to avoid making cuts or



The spring leaves of garlic, growing through mulch in a weed-free garden bed.

Photo: Helen Battersby



Garlic scapes are fun to watch as they curl. Young scapes are also delicious.

Photo: Helen Battersby

bruises that could allow entry of pathogens. At this point, the skin layers are delicate and should not be rubbed clean before curing. Trim the roots to 0.6 cm (¼ in) and brush dirt from roots.

Hang the bulbs to air dry in a well-ventilated, cool, shady area, for 2-4 weeks, or on a rack. When completely dry, cut off the stems and store in a cool area out of direct sun where the temperature is above freezing and constant, in paper or mesh bags or cardboard boxes, but not in plastic bags.

Save some of the (best) bulbs to plant again the following fall!

Disease and pest control

To minimize diseases and pests, plant only clean, disease-free cloves, dig up and dispose of weak/diseased-looking garlic plants in the garbage (do not compost them). Diseases and pests that can afflict garlic are discussed in detail in Cornell University – College of Agriculture and Life Sciences. [Diseases of garlic: various pests](http://plantclinic.cornell.edu/factsheets/garlicdiseases.pdf). <http://plantclinic.cornell.edu/factsheets/garlicdiseases.pdf>

References

OMAFRA. [Garlic production Factsheet](http://www.omafra.gov.on.ca/english/crops/facts/09-011w.htm). Last reviewed March 2009. <http://www.omafra.gov.on.ca/english/crops/facts/09-011w.htm>

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