



Extending the Season with Cold Frames: A Toronto Master Gardeners Guide

Looking for a way to extend the all too short gardening season? Cold frames help us maximize the microclimates in the garden and are an attempt to gain control over the climate. These unheated structures primarily advance or extend the season of hardy and half-hardy plants by several weeks at either end of the growing season. The cold frame is an ideal location for “hardening off” tender plants that have been propagated indoors, and for an early start on hardy annuals sown directly into the cold frame. Cold frames are also appropriate for storing dormant plants and providing a protected cold period for bulbs or hardy bonsai trees. Use your cold frame to overwinter tender perennials and young cuttings or seedlings that could not take the exposure of winter conditions.

How to make a cold frame

Look for instructions to make a cold frame at the library or home building centres. Ready-to-assemble cold frames are available by mail-order catalogue.

The sash or frame-top to be used will determine the size and shape of your cold frame. Sashes can be hinged or sliding, plastic or glass. The sides can be clear glass or plastic, aluminum, wood or brick.



Growing cold-season crops such as lettuce in a cold frame is a great way to extend your harvest before first and after last frost dates in your area.

Photo: Helen Battersby

Insulation and draft-proofing will increase the range of plants that can overwinter in your cold frame. A sloped top facing the sun will warm up quickly in spring and provide ideal conditions for early growth. Layers of burlap or carpet for additional protection should be tied down or held in position by heavy wood. These must be removed during the day to allow in light. A lining of landscape cloth can be stapled to the inside of the cold frame to keep out many crawling insects.

Ventilation is essential, especially in warm weather. Sashes can be wedged open to allow fresh air. Automatic vent openers work by expansion and contraction of wax or gas in a cylinder or with metal rods that alter their shape as temperatures rise and fall.

Cold frames can be placed directly onto the garden soil in bed or vegetable plots or sited for the best exposure. Plants can be grown in pots or directly into the soil under the cold frame. Prepare a base of a thick layer of drainage material such as gravel. Add a six inch layer of excellent soil mix for direct planting.

Using a cold frame to harden off seedlings started indoors

Cold frame ventilation can be varied easily to gradually acclimatize young plants to outdoor conditions. Avoid damage to seedlings from sudden environmental change by slowly reducing the dependence on artificial heat and protection. Leave the sashes open for increasingly longer periods once the danger of hard frost has passed. Add extra protection at night with blankets or carpet if needed. If you start seedlings indoors you'll soon need more growing space and the cold frame provides the

ideal “growing on” situation. A cold frame also allows you to buy plants early in the season while the selection is best and “harden them off” until conditions are warm enough for planting.

Growing cold-tolerant vegetables and annuals in a cold frame

Early crops of many vegetables, herbs and flowering annuals can be started directly in a cold frame much sooner than they could be started directly in the garden. For example lettuce, spinach and peas will tolerate cooler temperatures for germination and growth.

Storing dormant bulbs and trees in a cold frame

Fall planting of bulbs in pots for forcing can be treated to the required cold period in your cold frame and brought indoors and stimulated by warmth a few weeks before they would normally bloom. Use clay pots to avoid excessive moisture. Plant bulbs in twice their depth of soil and one bulb width apart. To prevent pots from freezing solid in severe winters, insulate by sinking pots into a bed of coarse sand or perlite or pack with straw or leaves.

Check periodically for watering needs. When the bulbs are ready to bring indoors, new shoots are visible and roots will show at the base of the container. After 10 weeks of cold weather begin checking for growth to see if pots are ready to bring indoors. Early flowering varieties require less cold treatment. Later blooming bulbs may need up to 16 weeks cold treatment.

Move pots to a cool room out of direct sunlight initially. Once shoots turn green and elongate, provide more light and warmer conditions. Keep the soil moist but not wet. Blooms will last longer if in a cool room at night. When the blooms die down, replant the bulbs and green stalks into the garden. Allow foliage to turn brown before removing it from the bulb.

Forced bulbs will not perform well a second year but may revive the following year in the garden. Bonsai trees that benefit from a season of cold will also overwinter well in the protection of a cold frame.

Propagating perennial seeds and cuttings in a cold frame

Fall plantings of perennial seeds and woody cuttings can overwinter in the cold frame, protected from the direct attack of winter. Cover with evergreen boughs or dry leaves for added insulation.

Produced by the Toronto Master Gardeners, these Gardening Guides provide introductory information on a variety of gardening topics.

Toronto Master Gardeners are part of a large, international volunteer community, all committed to providing the public with horticultural information, education and inspiration. Our goal is to help Toronto residents use safe, effective, proven and sustainable horticultural practices to create gardens, landscapes and communities that are both vibrant and healthy.

If you have further gardening questions, reach us at our gardening advice line 416 397 1345 or by posting your question online in the Ask a Master Gardener section. To book Toronto Master Gardener volunteers for talks, demonstrations, advice clinics, or other services, please contact us at 416 397 1345 or bookamg@torontomastergardeners.ca

Revised prior to May 2005.