

# Hardening off plants

Whether you buy plants from a garden centre or raise them yourself from seed in spring, they'll need to be hardened off before being planted outside.

Plants raised on the windowsill or in the greenhouse need to be gently acclimatised to the harsher conditions outdoors before being planted out. If this doesn't happen, exposure to cold winds or a sudden drop in temperature can seriously weaken or even kill the plants. Using a coldframe makes hardening off much easier.

## How to harden off

Position your frame so it faces south or south-west to receive maximum sunlight, ideally protected by a wall or fence. Don't stand it on low ground where cold air collects. Before using, wash down the glass and frame with a garden disinfectant.

If the plants have been raised under heat, you should lower the temperature gradually before transferring them to the coldframe for hardening off. Aim to move the plants to the coldframe 2-3 weeks before you intend to plant them out.

At first, ventilate sparingly, only on warm, sunny days, and make sure the top is firmly closed in the evening. After a week, gradually increase ventilation as weather permits and eventually leave the top off, or fully open, during the day. After two weeks, you can remove the top permanently.

Temperatures within the range 5-10°C are best for hardening off most plants. During this period, keep compost on the dry side as this will help to encourage 'hard' growth and more roots. Letting plants run a little short of nutrients will also help to toughen them up.

## When to harden off

Depending on the plant, you should be hardening off around the time of the last frost dates in spring. Seek local advice and check weather forecasts.

**What to harden off, and when**  
When they're large enough to handle, hardy pansies, cabbages and Brussels sprouts can be moved to the coldframe.

Alyssum and antirrhinum can cope with a few light frosts, so can be moved to the coldframe 4-5 weeks before the last frost date and planted out 2-3 weeks later. Lobelia, *Phlox drummondii* and mesembryanthemum should be hardened off before the last frost dates and planted out just after.

Other tender bedding (e.g. begonia, petunia, impatiens, salvia and pelargonium) and tender vegetables (e.g. courgettes, cucumbers, sweetcorn, runner beans and tomatoes) should be hardened off around the last frost and planted out two weeks later.

## DIY coldframes

Coldframes offer great scope for DIY and improvisation - half of all *Gardening Which?* members who own a cold frame made their own. Their advice is to make sure it's big enough and tall enough for the plants you want to grow, and easy to open, close and ventilate.

Solid sides are generally preferable as these offer more insulation, and reduce the risk of scorching on sunny spring days. Bricks, breezeblocks, old railway sleepers or other second-hand timber are all suitable. If the sides are not permanently fixed, the frame can be dismantled when not required. If you site your coldframe in a permanently shady position, or use it to raise summer crops such as melons, then it would be better to have transparent sides.

The top needs to be transparent, easy to lift and remove, and capable of being propped in a semi-open position for ventilation. Glass is excellent for transparency, and its weight reduces the risk of it blowing away. Second-hand windows are a good starting point. Plastic has the great benefit of being unbreakable - twin-walled polycarbonate is often used for packaging and may be available as off-cuts.

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## Buying a coldframe

We recommend the wood and polycarbonate Larch-Lap, which is easy to assemble and use, as our Best Buy: £40 from garden centres, call 0870 191 9801 for stockist information.

Access's aluminium and toughened-glass coldframes are also worth considering, with prices starting from £234. The 'Chatsworth' is tall, sturdy and has good ventilation.

Mail order only:

0800 298 6284 or visit

[www.mini-greenhouse.co.uk](http://www.mini-greenhouse.co.uk)

## Coping without a coldframe

On a frosty morning, look round your garden and note places where there is little or no frost, for example, a sheltered, south-facing wall or fence, under a hedge or on the sheltered side of the house. These should prove ideal places for hardening off plants later in the spring.

Stand your plants in a sheltered spot outdoors during the day. To begin with, leave them for only a few hours when it is mild and gradually increase the time until, after two or three weeks, they can be left out all night. However,

be ready to cover them with newspaper or a double layer of horticultural fleece if frost is forecast.

## What to do if caught out by frosts

Even experienced gardeners can be caught out by an unusually late frost. If you find recently hardened-off plants have been frosted, take steps to ensure they thaw out as slowly as possible.

If possible, move the plants into permanent shade until they thaw. Otherwise, try draping newspapers or netting over them.

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