

How to: Grow plants in containers



Containers such as plant pots and troughs are filled with soil and planted up with your chosen species. They are a great way to bring plants and wildlife into a small garden, patio, roof terrace or balcony. Almost any plant can be grown in a suitably sized container, although for it to be healthy you must look after it far more carefully than the same species planted in the ground.



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Target species

From the point of view of plant species, having them in containers allows you to move them around the garden and greenhouse. Many plants are only of interest when flowering, so you can place them prominently then, and later move them to a less conspicuous place when they have finished. Even more significantly, this allows you to grow plants which are not adapted to your soil – such as acid-loving plants if you live in a chalky area. You can also display tender plant species in the garden, keeping them protected from frost by moving them indoors or in a greenhouse during the winter.

All sorts of animal wildlife can use container plants, provided they can get at them. They therefore work best for flying insects such as pollinators, and for some bird species. Pots grouped together and surrounded by stones or wooden ramps can be used by mammals and ground surface invertebrates as well.

Types of container

Plastic flowerpots

Nearly all garden centre plants come in plastic pots, which are cheap, lightweight and very durable. While we should avoid all single-use plastic in the environment, flowerpots can be re-used year after year, and modern plastic pots are at last recyclable. Most gardeners accumulate enough small to medium plastic flowerpots to satisfy their needs for growing-on seedlings and cuttings for planting.

Terracotta and ceramic flowerpots

These are the classic garden plant container, heavy baked clay pots with large drainage holes and an attractive colour. They are expensive to buy new, although often available second hand, and they are fragile. The main problem with terracotta pots is that they are porous and can be cracked by frost, and soil and plants inside dry out quickly. Glazed and non-porous frost resistant ceramic pots don't have this problem, but the larger pots are very expensive.

Fibreglass containers

These are much lighter than terracotta, and available to large sizes suitable for shrubs and trees. They are expensive, but are available in various shapes, notably rectangular so they resemble classic Georgian lead planters.

Stone and metal containers

These are very popular with garden designers. Old farm troughs make beautiful planters but are extremely heavy and expensive. Metal troughs can be prone to corrosion.

Wooden containers

These can be half oak barrels bought from a garden centre, or your own planter troughs made cheaply from surplus wood. Raised beds are often surrounded by wooden boards (or old sleepers) and are a sort of wooden container. Wood rots when wet, but please don't protect it with unpleasant wildlife-inhibiting chemical preservatives. Instead, line wooden containers with plastic sheet to keep the wet soil away from the wood, and raise them on stones so they keep drier underneath.

Window boxes

These are usually wooden, often with metal reinforcing and fastenings. They can be treated just like other container, but you must be absolutely sure they are secure, and not likely to be knocked or blown off to the danger of anyone underneath.

Re-used containers

This is where it gets fun! All sorts of household containers can be given new life in the garden. Old sinks and even baths can be put into use, as can large tin cans and plastic sink bowls. Redundant toilet bowls with trailing plants cascading out are a real talking point. Crucially, all these must have adequate drainage holes, so the soil can't get saturated and smelly. Vegetable growers get bumper potato crops by planting inside old tyres, adding more layers of tyres and compost as the plants grow. You can do much the same by re-using old compost sacks.

How to do it

- Choose the largest size of container you can easily manage, with more soil there is a bigger water reserve and the plants will have a more constant environment. You can plant several small plants in one large pot
- All containers **must** drain freely. Old terracotta pots usually have one large hole, so put a curved piece of broken pot over this so soil doesn't fall out, but water can freely pass. This isn't needed if the pot has lots of smaller holes
- Use good quality compost to fill your containers. For temporary potting use a peat-free general-purpose potting compost. For long term planting, use a partially soil-based compost such as John Innes

No.3 mixes. You can make your own equivalent using one third well-rotted garden or leaf compost mixed with two parts of sieved garden soil but be aware that this may contain seeds which will spring up and may need to be removed.

- For acid loving plants use an ericaceous compost mix.
- It may be useful to mix in some water-retaining granules into smaller pots likely to be in sunny places to help keep soil moist
- Don't fill the container completely, leave a couple of centimetres gap below the edge so you can water generously, and the water can seep through the compost
- For the biggest pots with deep-rooted small trees, it is a good idea to partly bury a plastic pipe in the compost with the bottom end at root level, so you can water directly where it is needed.
- For larger pots it's worth putting "pot feet" or small bits of broken tile under the edge of the pot so it is lifted above the ground and can drain better.

Watering and feeding

Too little watering and your plants will wilt and may die quickly in small pots and full sun. Too much watering, so that their roots are sodden in stagnant water, and they will be starved of oxygen and poisoned by decay products. Ironically, one symptom of this is wilting, which may make you feel you should water yet again.

- Many plants droop visibly if they are short of water. Pushing a finger into the top layer of soil is a good way to gauge if the pot needs watering, but simply lifting a small pot to see if it feels light or heavy is easiest
- Large pots may need to be watered several times in one session, leaving the water to soak in each time before adding more. Even if water pours out from the pot base, it doesn't mean all the soil is wetted, since water often flows down air spaces at the side of the pot
- In hard water areas you should use rainwater, since hard tap water will build up a crusty deposit on the pots and in the soil
- Light rain showers may not be enough for your potted plants, because foliage can divert rainfall away from the soil in the pot
- You can buy auto-watering systems which can be useful if you are often away from home
- Some commercial potting compost is pre-dosed with slow-release fertiliser. If not, you can give the plants a general-purpose liquid feed in growing months

Repotting

As perennials and shrubs grow, their root mass expands, and they can get cramped in their containers, so it is good practice to "pot-them-on" to a larger home, ideally in spring when new growth starts.

- Knock the plant out of its pot: you may need to loosen the compost a bit first
- Carefully brush off as much of the old compost as you can, teasing out the roots but not breaking them.
- Re-pot in a larger container, using fresh compost, but don't put a small plant into a huge container, where it can't reach most of the compost which can stay waterlogged and damage the roots
- Even if the plant doesn't need a bigger pot, organic compost breaks down with time, so repotting every couple of years is recommended

How easy is it to do?

Very easy at the smaller scale, although big pots and troughs are hard to move.

How expensive is it?

Home-made containers are free, as are re-used pots that came with other plants. Posh ceramic pots can be £20 upwards to big sums. Potting compost costs about £5-7 for a 50 litre bag – but try to avoid unsustainable peat based composts, or those containing sphagnum moss.

How effective is it for the target species?

Very effective if you pay good attention to the health and welfare of the plants

Golden rules – what the science tells us.

- You will have to take responsibility for watering your potted plants, and in summer this means checking every day
- Overwatering container plants is at least as dangerous for them as underwatering
- If you have tender large shrubs that need to be overwintered in a greenhouse, you can get away with smaller containers if you sink them deep into soil (still in the container) when you replant them in the garden for the summer.
- Fruit trees and bushes can be very productive in containers, but you should choose [appropriate cultivars](#) and make sure they are grafted onto dwarfing rootstocks to keep growth within manageable limits
- Herbs do very well in containers. Not only will they be useful in the kitchen, the aromatic herbs like thyme, marjoram and rosemary are excellent plants for pollinators.

Be aware that:

- The bigger your container, the heavier it will be, especially when planted out. Even modestly large pots are too heavy to pick up, and must be rolled, or moved using a sack trolley

Further information:

How to: Improve a [patio](#) for wildlife www.wlgf.org/ht_patio.pdf

How to : Improve a [balcony](#) for wildlife www.wlgf.org/ht_balcony.pdf

How to: Make a [pond in a pot](#) www.wlgf.org/ht_pond_pot.pdf

RHS advice on [container planting](#) www.rhs.org.uk/Advice/profile?pid=583

RHS [trees](#) for containers www.rhs.org.uk/Advice/Profile?pid=274

RHS advice on [watering](#) www.rhs.org.uk/Advice/profile?pid=312

RHS advice including [repotting](#) www.rhs.org.uk/container-gardening/maintenance

RHS advice on [fruit for containers](#) www.rhs.org.uk/fruit/fruit-trees/containers