



The National  
Allotment Society

National Society of Allotment and Leisure Gardeners Ltd



## Introduction to sustainable water collection and use on allotments



The DRY project has worked with allotment holders, the National Allotment Society and commercial growers to bring together the knowledge and advice in this guide



Natural  
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[www.nsalg.org.uk](http://www.nsalg.org.uk)

## How much water does your plot use?

Water consumption across the UK varies depending on soil condition, local climate, what you grow, etc. For example, a grower using mulching and no-dig might use around 1,800 litres per year on their plot. However, another plot holder could use over 8,000 litres per year!

This guide explains how rainwater can be collected and used efficiently.



- Watering the soil at the base of plants (under their foliage), using a can, (without rose) will direct more water towards their roots.
- If you water in the middle of a sunny day, a lot of the water will evaporate before reaching your plants. If you can water early (before the ground gets hot) or late (after the sun has set) your plants' roots will have more chance to absorb the water.
- Some plants (like seedlings and those in small pots) may require watering little but often, (daily) over the summer. It can be beneficial to water seedlings in pots in a water filled tray.
- Established plants need to be encouraged to search for water; frequent light watering encourages roots to stay near the surface but a good soaking once a week encourages them to grow down into the soil.
- Water soil lightly before, rather than after, sowing seeds to prevent soil slumping and



capping as this can inhibit the growth of seedlings.

- Some species (for example, peas and beans) have particular watering needs, and may benefit from periods of reduced watering. In most soils, root vegetables like carrots and parsnips do not need water once established.

“My main reason for using water butts on the allotment is that my plants prefer rainwater. They grow better”

**Nicola, Frome**

- Rainwater can be harvested from the roofs of sheds, greenhouses or polytunnels. Some sites ask plot owners to collect and use rainwater, if possible.
- Swales or shallow gullies can be used to direct rainwater to plants.
- Water flowing down slopes can be trapped using terraces or French drains (gravel filled trenches).
- Consider how runoff from paths and other areas might be directed into soil.
- A popular (and cheap) option for water storage is the use of plastic barrels (200 litre).
- Intermediate Bulk Containers (IBCs) offer larger capacity (typically 1000 litres) but are usually more expensive than blue plastic barrels. A key consideration is what they previously contained (avoid anything toxic). IBC can be painted to block light to reduce the growth of algae. Alternatively, shade with plants or wicker panels.
- Raising and interconnecting your containers makes filling and emptying easier. Ensure all containers have covers



to reduce evaporation and prevent animals or children from falling in.

- Normally you'll be able to use about 80% of collected water (as some will be lost in storage due to evaporation).

“What an ideal opportunity to have a run off, rainwater, into barrels. Saving 1800 litres of water from each shed and only once in 6 years run out”

**Allotment holder, Fowey**

**Green manure.** In preparation for the next growing season, fast-growing plants can be sown to cover bare soil and grown over the winter months. These can be turned into the soil (before flowering) to increase the organic matter content of the soil, which in turn increases the water holding capacity. A dense carpet of green makes a perfect environment for slugs and snails, so control measures may be needed.

**Drip irrigation** (from a raised water container) can be tricky to setup but is very efficient at irrigating the soil above the roots. Linking the water container to the pipework via a battery powered valve allows the plants to be automatically watered before sunrise. This minimises evaporation.



**Applying a thick layer of mulch** will help to retain moisture by providing protection against sunshine and drying winds. If you have a lot of annual weeds or want to implement 'no-dig', it may be beneficial to put down overlapping sheets of wet cardboard before mulch.

Generating enough mulch to cover a whole plot is difficult. It is easier to start with a few raised beds and extend over time. For example, four beds, 1.2m by 1.8m (total area 8.6m<sup>2</sup>), requires 12 x 70 litre bags of mulch to get a 10cm layer (840 litres of mulch). Established beds require less new mulch year on year, down to 2.5cm per annum.

“No dig for me is an absolute no brainer, it works on the allotment”

Allan, Taunton

**No-dig** needs to be kept in an area that you do not walk on, so space around the bed is required for paths. The paths need to be wide enough to allow space for kneeling while weeding or moving wheelbarrows.

It is important to make sure that beds are not too wide or it will be difficult to reach the centre for harvesting.

Try intercropping to create shade and reduce evaporation. If you have a greenhouse, applying shading to the glass will reduce evaporation. It may be possible (subject to your allotment rules) to use trees or bushes to create shade.

Weeds compete for moisture in the ground so hoe regularly or cover soil with weed suppressing geo-textile.



“These three beds have never been dug in six years and I must say, without boasting, I do quite well at the local shows and they produce quite a lot of foods.”

Allan, Taunton