



The National Allotment Society

National Society of Allotment and Leisure Gardeners Ltd



Ground level rainwater collection on allotments



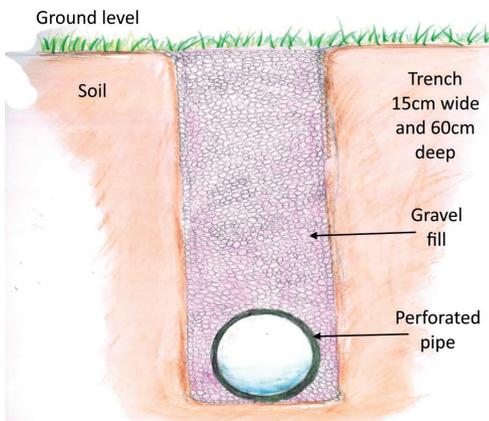
The DRY project has worked with allotment holders, the National Allotment Society and commercial growers to bring together the knowledge and advice in this guide



The volume of rainwater that can be collected on a plot is proportionate to the collection area.

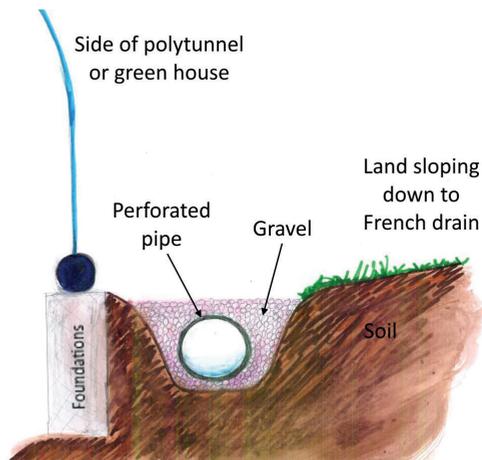
Therefore, ground level water collection usually has the potential to collect significantly more rainwater than water collected from elevated structures (such as the roof of a shed or greenhouse).

In some cases, such as polytunnels, it can be easier to collect rainwater at ground level by adding French drains down the sides of polytunnel.



Advantages of French drains include:

- visually less obtrusive than most alternatives
- can be used as paths between beds
- algal growth is reduced/prevented due to darkness
- prevents/reduces the possibility of surrounding ground becoming water logging during periods of heavy rain
- maximises available ground for cultivation



French drains capture water from the **surrounding soil** (not just the area immediately above). In other words, moisture moves sideways through soil into the drain.

Typically the trench is approx. 60cm depth, and approx. 15cm wide (width of a narrow spade) to accommodate a perforated pipe of 10cm dia.

Installing the piping with a slight downwards slope to the discharge will improve flow. French drains can be combined with swales to collect more water.

'Swales' are natural or man-made depressions (or ditches), usually grass covered, with shallow-sloping sides.

"If it's droughty in the winter because you haven't had much rainfall, you want that water coming through the drain so it runs through your plot."

Mark, Frome

French drains can also be good for drainage and used to slow throughflow and hold water in the soil. Excessive ground moisture (flooding) can harm most plants. Therefore effective drainage can be beneficial to most sites.

In practice, there are two major challenges with water collection at ground level:

- requires significant ground work (e.g. digging of trenches to accommodate collection and location for storage container).
- collected water needs to be either pumped/raised or accessible to irrigate plants.



If your plot is on a slope, it can be practical to dig out a step to accommodate the water container(s). The plastic sheet (typically a large tarpaulin) is located adjacent to the step.

A length of gutter is often used to collect and direct the rainwater from the sheet into the containers. An overflow to an open barrel can be added to handle heavy rainfall.

“If you have a slope, put your French drain across ... the slope. [If] your plot is saturated, stays damp, [it] stays cold, so you get a shorter growing season. You have a French drain but you have at the end of the French drain, pipe that comes off it and goes round and discharges below your plot. You have a tap in it, so you’ve got a dry winter you can turn the tap off so that you force that water across your plot because you might want it. It’s actually trying to manage [water to get] longer season.”

Mark, Frome



Another option is using a raised sheet to direct rainwater into a container. The challenge is protecting the sheet from strong winds which can exert considerable forces. Using an Intermediate Bulk Container (IBC) for water storage and keeping it partly filled can provide a secure base for the sheet.



Ever wondered where rain goes?



If your plot does not have a structure which can be used for rainwater collection and you do not want to install a French drain or plastic sheeting, you could consider using a stand alone water collector:

“We started by having water stations around the site but only in areas where the mains water taps are. We collect water from a roof which collects about 600 litres of water and we have 8 of these around the site.”

Les, Patchway

On some sites, it may be possible to redirect runoff water from swales or Sustainable Drainage Systems (SuDS) to a storage reservoir or to directly irrigate nearby plots.



The impact of a drainage system on the surrounding plots also needs to be carefully considered. For example, if an overflow directs heavy rainfall off the plot it could result in flooding in a neighbouring plot.