

actsmart[®]

irrigation methods

Many gardeners use a combination of irrigation methods, including irrigation systems, hand-held hoses and watering cans. Water restrictions may limit you to a particular method, and will override the information in this fact sheet and the WaterRight Gardens webtool.

How to water efficiently

How much water you apply and how often you water is influenced by:

- your site slope
- soil type
- planting scheme
- microclimate.

The impact of these is explained in the other fact sheets.

What is your soil type?

Soil type is a determining factor when trying to deliver the water your garden needs as efficiently as possible. So what's the difference?

If you are dealing with clay soil, be aware that water is slow to absorb, so run-off can occur quite quickly. Pulse watering can help water the soil efficiently. This involves watering until water starts to pool, then stopping to allow the slow infiltration. Once this water has been absorbed, water again.

If you have a sandy loam soil, then water penetrates quickly and effectively. You don't really need to pulse water, as generally there won't be an inefficient run-off of water.

Repeat the pulse cycle until the water reaches the depth of the root zone (about 300 mm) or until the total time spent watering conforms to your watering instructions, provided in the WaterRight Gardens webtool.



Fixed irrigation systems

A well designed, operated and maintained automatic irrigation system is often the most time and water efficient way to apply water. Even the simplest system with a tap timer can be effective. While you can design and install your own automatic system, if the design is not appropriate for your garden or you do not know how much water your system delivers when you operate it, you could be wasting water.

If you decide to install an irrigation system yourself, seek advice on the installation and operation from a qualified irrigation stockist.

Some points to note:

Ensure your system meets any local regulations, especially backflow prevention regulations.

- Use separate watering zones for areas of the garden that have different watering requirements, e.g. garden beds, vegetable gardens or lawn areas.
- Once you have different zones you may need an electronic controller.
- You can use soil or rain sensors that override electronic controllers so you only water when the garden needs to be watered, but you can also manually override the system to avoid watering after a rain event.



Drip Irrigation

Drip irrigation can be an efficient and effective watering method for use in Canberra. A correctly designed and installed system can save water provided it is used correctly.

Some advantages of drip irrigation:

- It enables water to flow at low volumes and low pressure.
- Water is delivered directly to the soil surface (under the mulch) and not to leaves. This limits evaporation and wind drift.
- When combined with a rainwater tank, drip irrigation can free you from water restrictions, allowing you to respond quickly to your garden's water needs.

There are two types of drip systems:

1. In-line drip tubing is ideal for high density plantings, vegetable gardens and around groups of plants or larger shrubs and trees. Most products are available in 1.6 to 2 litres per hour (LPH). Generally the emitters are spaced at 300 mm.

For large blocks or sloped sites, pressure compensated emitters should be used, as these ensure the pressure and output is the same through the whole line.

2. On-line drippers are available in 2, 4 and 8 litre an hour emitters. The 2 LPH emitters are generally best suited for compacted soil types that occur throughout Canberra. This lower application rate will allow the water to move deeper into the root zone, reducing the risk of runoff or pooling. These systems allow you to attach droppers where you need water, so are great for sparsely planted gardens. They do require more ongoing maintenance than in-line drip systems, as there are attached parts that may need checking and replacing over time.

To design a drip irrigation system that is suitable for your garden, talk to your local irrigation professional.

Things to consider for drip irrigation:

- Systems must be site and soil specific and are best if professionally designed and installed.
- Systems require regular checks for evenness of watering, blockages and leaks.
- For lawns, drip irrigation is expensive to install, can be pierced during operation or laid too deeply (below the root zone). Where there is heavy foot traffic, soil can become compacted and block emitters.

Irrigating lawns

Different types of lawn have quite different watering needs. Popular options in Canberra are combination turf types (such as Canturf Canberra Blend), which look good all year round. Another option is Sir Walter Buffalo. This requires considerably less water to keep it looking great through summer, but will brown off during winter. The severity of this browning will depend on exposure to frost. Buffalo is a running grass, so vigilance is required to keep it out of garden beds, especially if no edging is installed between garden beds and lawn areas.

Another factor in whether keeping a nice green lawn is viable, is the amount of sun or shade the area receives. In Canberra, the harshest summer heat from the west on those hot afternoons can make keeping a lawn looking good a wasteful and time consuming task. If you would like to have a lawn but want to use less water and effort, consider an easterly aspect for a lawn area.

Lawn irrigation is subject to restriction in certain stages of the ACT's Temporary Water Restrictions Scheme.

If you are unsure about whether you can irrigate your lawn, contact the ACTEW Water Conservation Office on 6248 3131.

High pressure pop-up sprinkler systems with the right sprays are suitable for lawn irrigation. There are a wide range of pop-up heights and nozzle configurations for small spaces and awkward lawn shapes. The critical element in lawn irrigation is careful placement of sprayers to get even water distribution. Triangular rather than square grids are usually recommended.

Hand-Held Hosing

Some tips for watering efficiently and effectively with a hand-held hose:

- Always use a trigger nozzle or water wand when applying water with your hose. You should apply a gentle stream at a rate that allows the water to penetrate into the soil and the root zone, without causing runoff.
- Only water the plants that need it, during the colder months. Plants generally are ok to survive on rainfall in winter.
- Use pulse or cyclic watering principles, consistent with the soil type present.
- Ensure an even distribution of water across similar plant types.
- Apply water to the soil and root zone (not the leaves).