

Practice thrifty irrigation

A bit of thought and care when watering your garden will save water and reduce water bills.

Run-off water is wasted water, so:

- Avoid applying water faster than the soil can absorb it.
- Make shallow basins around the base of trees and shrubs to hold the water, giving it time to sink into the soil.
- On slopes, make terraces or pockets (swales) to hold water.
- Adjust your sprinklers so water is not wasted on driveways, sidewalks, patios or buildings.

Water deeply but less frequently

- Deep soakings encourage roots to grow downwards and utilise moisture deep in the ground. The plants are then more drought resistant.
- Ensure that water reaches the expected root depth - 20cm for lawn, vegetables and herbs; 60-90cm for trees and shrubs. Allow the top 8-10 cm of soil to dry out before watering again.
- When planting a tree, place a water pipe from the base of the tree roots to just above the soil surface. Watering into this pipe will take the water directly to the tree roots and encourage deep rooting.



Water according to your soil type

- Run-off occurs most on compacted clay soils, so water clay soils in short bursts or very slowly. Clay soils also hold water for longer so water less frequently.
- Sandy soils absorb water quickly, so water with a strong flow rate. Also water more frequently as water passes through sandy soil quickly. Increase soil water retention by adding organic matter, such as compost.
- Loamy soils are best – they hold water around plant roots. Water with a moderate flow rate, but less frequently than sandy soils.
- Add water retaining granules to the soil to hold the water around the roots of plants for longer. This is particularly recommended for container plantings of annuals, hanging baskets and newly planted trees.
- Mulching the soil around plants will hold water in the soil for longer, so mulch all beds.

Group plants into hydro zones

Group plants with similar water requirements together to create different hydro zones, and irrigate each hydro zone accordingly. Make your high water use zone the smallest and use it as a focal feature. The medium water use zone will be larger and can be further away from the house. The low water use zone should be the largest zone in the garden. Once the latter zone is established it should be able to survive on rainfall alone.

An automatic watering system can be adjusted to have different irrigation programmes for the various water usage zones. The low water zone does not need an irrigation system, although in times of drought some manual watering may be necessary. Zoning results in water savings of between 30 and 80%.



		Drip	Mist	Pop up	Shrub riser	Hosepipe	Tripod sprinkler	Watering can
Garden	Small (under 200m ²)	✓	✓	X	X	✓	X	✓
	Medium (200 - 1000m ²)	✓	✓	✓	✓	✓	✓	X
	Large (over 1000m ²)	✓	✓	✓	✓	✓	✓	X
Trees		✓	X	✓	✓	✓	✓	✓
Shrubberies		✓	✓	✓	✓	✓	✓	X
Lawns		✓	X	✓	X	✓	✓	X
Vegetables		✓	✓	X	✓	✓	✓	✓
Seedlings		X	✓	✓	✓	✓	✓	✓
Pots		✓	✓	X	X	✓	X	✓
Wind		✓	X	✓	✓	✓	✓	✓
Soil types: Maximum water to be applied at one time	Sand 8-10mm per m ²	✓	X	✓	✓	✓	✓	✓
	Loam 6-8mm per m ²	✓	✓	✓	✓	✓	✓	✓
	Clay 6mm per m ²	✓	✓	✓	✓	✓	✓	✓
DIY irrigation		✓	✓	X	X	✓	✓	✓



For further information on Water Wise, please contact us on 0860-10-10-60 or visit the Home and Garden section at www.randwater.co.za

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Water Wise Watering



South Africa's challenges

The world's average annual rainfall is 985mm, whereas South Africa's average annual rainfall is 492mm – only half the world's average. This means that South Africa is classified as a semi-arid country where water shortages are commonplace.

South Africa's summers are expected to become hotter and drier, with extreme weather events such as freak storms and flash floods becoming more frequent as a result of climate change.



Gardeners are already adapting to climate change and the foreseeable water shortages. This is evident in the increased use of rainwater storage tanks, filtered 'grey water' (water from washing machines, dishwashers, baths and showers), as well as the use of water efficient irrigation systems.

Irrigation systems

An irrigation system can help gardeners keep their gardens looking good in the face of these challenges while at the same time conserving water. An automated irrigation system ensures regular and efficient plant irrigation. It also accommodates various hydro zones in the garden. The irrigation system can be linked to a rain sensor and soil moisture sensors as well as a fertiliser supply system. Another benefit of an automated irrigation system is that irrigation can be programmed to occur when evaporation rates will be at their lowest.



Calculate how long to irrigate

On the Highveld it is recommended that in summer a maximum of 25mm of water per week be applied to high water needs plants that are in your high water

TIP: Drip irrigation is the most water efficient system. Drip irrigation delivers water directly to the plant roots.



zone. This includes the lawn area. In principle a timer can be set to apply 10mm of water every three days. The table below shows plant water needs by zone and by season.

Calculate how long you should set the irrigation system to run for by placing a measuring jug in the garden where water from the irrigation system will fall into it. Time how long it takes for the jug to fill up to the 25mm mark. You will then know how long to let your sprinkler or irrigation system to run for and can set the timer appropriately.

During the Highveld summer the rate of evaporation of moisture from the soil is high – from 4-6mm per day. If a plant requires 10mm of water every three days, in summer you need to apply 10mm plus the 15mm or so that has evaporated over those three days – a total of 25mm. During Highveld winters the evaporation rate is almost zero, therefore apply 7mm of water per week.



Make adjustments to suit seasonal changes

Adjusting your weekly irrigation schedule to changing weather conditions can save water and money. If you have an irrigation system with an automatic timer, don't 'set it and forget it'!

	High zone	Medium zone	Low zone
Summer:	25mm (100%)	15mm (60%)	12mm (50%)
Spring/Autumn:	15mm (60%)	12mm (50%)	7mm (25%)
Winter:	12mm (50%)	7mm (25%)	12mm every second week (including lawns but not at all if dormant)

Note: These amounts exclude water lost to evaporation, so adjust according to season and rainfall.

When to water

Water at the right time

- Avoid mildew outbreaks by setting automated systems to water before dawn. Evaporation rates are also at their lowest at dawn.
- Water less often in cool weather and more frequently in hot weather.
- Avoid watering on windy days, as evaporation rates are higher.
- Water in the early morning or late afternoon.
- Apply water when the first 10cm of soil is dry.



Stop watering if rain falls

- When good rains fall, stop watering for a few days - except plants that are sheltered by the roof overhang.
- In summer, you can use the four-day weather forecast to plan whether you should irrigate or wait for the rain.
- Include a rain sensor in your irrigation system, which automatically turns the system off if sufficient rain has fallen.
- Consider including a weather station that automatically adjusts the irrigation times according to current weather conditions.

Water according to season

- In summer water in the early morning or late afternoon as this reduces water lost to evaporation. (Avoid watering between 10am and 2pm from October to February).
- Water less during winter as evaporation rates are lower and many plants are dormant therefore requiring less water. Every two weeks is sufficient.
- In winter, when the evaporation rate is almost zero, change the hours of watering to the warmer hours – 9am to 3pm – to prevent damage to plants by water freezing on their leaves or freezing in the soil. Ensure soil drains sufficiently.
- Stop watering kikuyu or cynodon lawn in winter, when it goes dormant.

