

# NURSERY PAPERS

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## Water management in retail nurseries and garden centres

Garden centres face many challenges in a competitive industry and no two are the same. Stock levels and type vary seasonally and the need to display plants to attract maximum sales will sometimes come into conflict with the requirements of efficient watering.

This month's nursery paper, written by Industry Development Officer for Nursery & Garden Industry Victoria (NGIV) Robert Chin, examines ways of maximising water use efficiency in garden centres. The paper offers valuable tips to help improve your water management and discusses how doing so may even generate greater sales in your business.



# Water management in retail nurseries and garden centres

Garden centres and retail nurseries face many challenges in a competitive industry and the need to create attractive plant displays can appear to conflict with the principles of efficient water use management. However, opportunities do exist amongst the challenges, with the best retailers taking advantage of water restrictions and the drought to boost sales of water conserving products. This nursery paper offers a wide range of guidelines, tips and suggestions on how retailers can maximise their water use efficiency without impacting on sales or profits.

## Use capillary matting on benches

Capillary matting is commonplace in production nurseries but also works well in retail nurseries. Ideally, the matting would be connected to a pipe that automatically turns on as required, but this is generally not possible in existing nurseries. Have the mats made to suit your particular application. They will keep the pots moist and significantly reduce the need for watering. Moist mats also help to cool the plants and prevent potting mix and litter collecting under the benches.

Capillary matting systems:

- Are most suited to display stands and indoor watering
- Can water a wide combination of containers and potting mediums
- Can be used in combination with overhead sprinkler systems for vulnerable crops, and
- Are customer friendly.



Macdonalds Plants Plus, Bendigo. Reduce watering demand by lining nursery benches.

## Use automatic sprinkler systems as the primary watering system

It is not always true that you can not use automatic watering systems to save water in nurseries. The problem is that most sites do not have well designed irrigation systems and benches and pot standing areas are not set up with sprinklers in mind. While it is not within the scope of this paper to explain how to design a sprinkler system for your site, consider the following design principles as a minimum.

### Getting started

- The inlet pressure of the town water supply should be measured and regulated. Keep in mind the fact that water pressure varies throughout the day.
- Make sure you have enough pressure to operate your sprinklers as some pressures will be too high and others too low. To strike the right balance, you may need to adjust the number of sprinklers per block, change sprinklers to a lower discharge, or install a tank, float valve and pumping unit.
- Sprinkler layout should aim to minimise spraying onto paths or other hard surfaces.

### Adjusting and maintaining your equipment

- Sprinkler precipitation rate (output) should match the ability of a pot to take up water. Remember, shrub sprays are not always the best.
- Install a rain sensor and possibly a wind sensor that will turn your automatic sprinkler system off if it is raining or too windy.

- Check sprinkler operation to maximise efficiency. In particular, avoid running the sprinklers over pressure as this will lead to misting. This is not good.

### Making the most of your automatic sprinkler system

- Run the sprinklers automatically in the early morning to reduce loss to evaporation and wind. Top-up briefly at night if required.
- Don't try to water the whole nursery at once. Water smaller, younger plants for a shorter amount of time but more often. Scheduling should closely match the needs of your plants.
- Save time by maximising the number of plants watered using automatic sprinklers.
- Display gardens need to be watered well. Use drippers where possible.



Essendon Garden Centre uses this efficient gear driven sprinkler as part of its automatic sprinkler system.

### Drip irrigation systems

- Must be slow discharge to match water absorption rates of potting mediums
- Are suited to hanging baskets, bagged trees and advanced stock
- Are customer friendly

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## Design the layout of your site to minimise water use

This is easier said than done. In a perfect world, every plant would be the same and would grow in the same size pot! Unfortunately, this is not the case. Below are some fundamental design and layout criteria to consider when planning your site.

- Where possible, put plants with similar water requirements in the same area to allow for similar irrigation scheduling, for example, keep annuals with annuals and not 200mm bloomers.
- Don't build displays that are difficult to water such as those with a few small pots or combining large pots with little pots.
- Reduce the amount of free water lying around the nursery by using drippers on hanging baskets or advanced trees. This will and save water.
- Minimise wind within the nursery by using windbreak plantings or cloth on perimeters and fences.
- Consolidate plant displays and don't irrigate empty areas in the seasons when you have less plants.

## Recycle water from your nursery

This is a great thing to do if you can. Nurseries are typically designed to drain to one or two points. Drainage pipes collect the water and channel it into stormwater drains where it is wasted. Consider collecting water from irrigation and rainfall and recycling it. The system doesn't need to be complicated and the water you get will generally be very clean. The water from your building roofs is useful as well.

Install a small collection sump or larger collection tank and use a pressure pump connected to a hose to reuse the water. If space allows, transfer water to a larger water tank. If you are concerned about dirty water or recycling pathogens, a simple filtration system and safe chlorination system will do the job nicely. Alternately, just put the water onto your garden beds – they won't care.



Recycling system at Essendon Garden centre. Generate sales by practising what you preach.

## Other tips for saving water

There are many other ways to save water at your garden centre. Implementing just some of the measures listed below will make a difference to your water use efficiency.

- Install watering wands with on/off valves or triggers so you won't need to turn it off at the tap when you get distracted or move around the nursery. This is particularly the case in those areas that have declared water restrictions.
- Weeds in pots use more water than the plants in the pot – remove weeds from pots as they appear.
- Sweep paths and benches, don't wash them down.
- Use a high pressure cleaner. They use less water, are more effective and you won't have a problem with water restrictions. Some of the better models even allow you to add cleaning agents to the water as you use it.
- Use a shade cloth to reduce the effect of sunlight, especially on susceptible plants such as seedlings and ferns.

- Check that your irrigation system nozzles are working well and that pipes have no holes and have not been blown off. This is a simple but often overlooked component of regular system maintenance. If you are using an automatic system, check flow and pressure to make sure you are not misting due to overpressure in the lines.
- Repair leaks in hoses and hose fittings – another simple but neglected component of efficient water use management.
- Repair dripping taps – while they don't use a lot of water, they look terrible and leave a poor impression with customers.
- Don't water the whole site at once; only the areas that need it. Businesses sometimes get less experienced staff to water the plants, which can lead to overwatering. Look carefully at the plants. Do they all need to be watered and do they all need to be watered for the same amount of time? If water is coming out of the bottom of the pots, then it is probably being wasted.
- If possible, recycle the water you use.

## Knowledge is power

Knowledge of plant water use, your exact requirements and how you are saving water will empower you in your dealings with water authorities and help you to reduce your water consumption without impacting the business.

Water meters are a great management tool to work out your daily, weekly and monthly water use. A significant advantage of using a water meter is that you can build up a history of your water usage. This allows you to demonstrate to water authorities how much water your business needs.

- Get some expert help. Ask your industry body to give you the name of an irrigation expert with experience in nurseries.



Bulleen Art & Garden. Mulch saves water, has good margins and is a popular seller.

## Selling opportunities for retail nurseries

Good retailers are always looking for ways to generate more sales. Many of the methods that businesses can use to manage water more efficiently are actually marketing opportunities as well. If you are doing something to save water, tell your customers! It boosts your environmental credentials and might even help you sell a few more products, including:

- Water tanks and recycling – why let the chains have a monopoly on this market? Sell water tanks and rain diverters if you are using them. There are good margins on these products. If you are using a recycling pump, tell the public. They may be encouraged to buy one too. They are easy to sell and will differentiate you from competitors.

- Mulch and water crystals – use these on garden beds and other displays then sell them to your customers.
- Windbreaks, rain sensors, hanging basket drippers and sprinkler systems.
- Water spikes, rain saver gels and wetting agents - these products all sell well in dry times.

### Did you know...?

A typical hand watering wand has an output (precipitation rate) of more than 100mm per hour. Most pots can only take water up at about 15mm per hour.

Many of the methods that businesses can use to manage water more efficiently are actually marketing opportunities as well.



Macdonalds Plants Plus, Bendigo. Promoting water conservation in the nursery boosts your environmental credentials and creates a good impression on customers.

### The bottom line

Although retailers are not water wasters there is no denying the public perception about our industry's use of water. Watering retail nurseries can be very difficult and the need to sell plants in good order often conflicts with the design requirements of sprinkler systems. This is frequently made more difficult by antiquated, time-based water restrictions. Watering correctly should not affect plant quality nor your bottom line. In fact, retailers have an opportunity to make the most of the hotter, drier weather by sell water saving and management devices.

### Acknowledgements

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