



## Keeping up with water rules

In Australia, over 70 percent of our available water is used for agricultural irrigation as compared to less than 40 percent in other high-income countries. In response to this ongoing water crisis, Australia's water use has come under much scrutiny in an effort to find ways to improve its water-use efficiency.

In this month's *Nursery Papers*, former NSW Department of Agriculture officer, creator of the Waterwork training course and renowned industry 'water guru' Chris Rolfe examines how the new water legislation affects businesses in the nursery and garden industry. He outlines the current water policy and assesses the risks and implications of these reforms for your business.

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## How do the new water rules affect your business?

### A global crisis

For the first time in its history, humankind is facing a worldwide water crisis. In most high-income countries, less than 40 percent of available water is used for agriculture. The major exception is Australia where we use over 70 percent of our available water for irrigation. This is partly due to our dry continent but mainly reflects our poor irrigation efficiencies when compared to other developed countries. The recent drought over much of our continent has helped the media focus on many water issues, alerting the community to a need for better water utilisation.

### New legislation

The water reforms that were started by the Council of Australian Governments (COAG) way back in 1994 are now starting to bite with the support of the general community. The 1992 Industry Commission Report *Water Resources and Waste Water Disposal* recommended two mechanisms to improve water utilisation and reduce consumption. These were to:

1. Increase the price of water to reflect its scarcity and actual cost to our economy, and
2. Reduce allocations, particularly for irrigation.



Can you justify how much water you use in your production or retail nursery? Many nurseries are still using over 30mL per hectare each year while others are growing healthy plants using less than 5mL per hectare.

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**In Australia, we use over 70 percent of our available water for irrigation, unlike the majority of high-income countries, which use less than 40 percent.**

In light of these recommendations, the following reforms have been introduced:

- All water pricing is to be based on the principles of consumption-based pricing, full cost recovery and transparency of cross-subsidies
- New investments in irrigation schemes as well as currently existing schemes now need to be appraised on whether they are economically viable and ecologically sustainable
- State and territory governments have implemented comprehensive water allocation or entitlement systems that separate water property rights from the land
- Total water allocations now include allocations for the environment as a legitimate water user
- Trading of water allocations is to be allowed within the social or physical and ecological constraints of the catchment
- Resource management and regulatory roles of governments have been separated from water service provisions
- An integrated catchment management approach to water resources with greater local level responsibility for water resource management has been implemented
- Greater public education about water use and consultation in implementing water reforms is now taking place
- Government money has been allocated for more research into water use efficiency technologies.
- **A licence is not required for water that is reused and collected in a dam.** These storages have set specifications in some areas (eg sealed and limited to only collect nutrient runoff from designated catchments).
- **Most extractions from both surface and groundwater sources now require a licence.** These licences come with conditions and limitations on the volume that can be extracted.
- **The prime means of regulating water use has now fallen to regional catchment strategies or catchment management boards or authorities.** These authorities can impose certain obligations in water use and land management. In many cases, volumetric allocations, cease to pump levels and environmental flows will all be determined catchment by catchment.

Each state and territory has taken a different approach to these reforms but in essence, the following principles have been followed nation-wide:

- **A person has the right to use rainwater for any purpose** so long as it is collected from a roof or other artificial surface (eg a sealed nursery unit).

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- Where no more licences are being issued, **irrigators are able to transfer or trade their water entitlements** on either a permanent or temporary basis.
- **You are now liable to provide compensation** to injured persons if you have taken or used unauthorised water or polluted water.
- **Diversion of water either away from or onto adjoining lands can now lead to compensation** if deemed unreasonable.
- In most states, **water authorities now have wide powers to carry out their function**. They can enter land to read meters, inspect works and generally carry out their regular operations.
- **It is now an offence to deliberately or negligently allow water to be wasted**, misused or excessively consumed in most states.

**Retention dams to collect and recycle runoff water are now required by most catchment authorities.**

## Water management in your business

So how much water do you use each year on your nursery? Nurseries without some metering device to record water use are now considered irresponsible in the public eye.

Recent years have seen businesses in the nursery and garden industry having to ask themselves some serious questions. For example, how much water do you use each year in your production or retail nursery? If the catchment authority comes calling can you justify your water use? Many nurseries are still using over 30mL per hectare each year while others are growing healthy plants effectively using less than 5mL per hectare.

So before you launch into water trading, ask yourself the following:

- Can I justify the volume of water my business requires?; and
- What will I do if my business is allocated a much smaller volume of water for irrigation under the new rules?



**Drip irrigation can reduce annual water consumption to 3mL per hectare.**

For businesses facing reduced water use allocations, one option will be to go into the market place and buy a larger entitlement. For others, the only option will be to reduce their water consumption.

There are many benefits to adopting efficient water use strategies. These include lower water costs, lower pumping costs and better retention of fertiliser in containers, which can lead to faster plant growth. Also, even water application encourages even plant growth across crops, in turn reducing dispatch costs.



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Low discharge sprinklers can reduce water runoff and nutrient leaching.

If your nursery site doesn't allow collection and reuse of runoff then you should give serious consideration to installing a system other than overhead sprinklers to water your plants. Drip and many of the bottom watering systems can use between 3–6mL per hectare if designed, installed and operated correctly.

## The bottom line

Better water management improves profitability, meets new community standards for water utilisation and creates a more sustainable environment. Everybody is a winner!

To find how your business stands under the new rules you need to talk to your local catchment management authority or government regulator.

## TIPS ON SAVING WATER

Below are some handy hints on using less water from an outside resource:

- Use an efficient irrigation system that applies water evenly and at a slow enough rate for the potting media to absorb it. This reduces leaching and irrigation runoff.
- Only apply the amount of water that the plants actually need by scheduling irrigation correctly
- Collect and reuse any runoff, and
- Collect and use rainwater runoff that lands on production or display areas.



Bottom watering irrigation systems such as channel, capillary and flood bench (pictured) can also result in substantial water savings.

## Acknowledgements

Chris Rolfe needs little introduction to the nursery and garden industry. Chris is the major author of the book *Managing Water in Plant Nurseries*, now in its second edition, and for many years wrote a regular column in the *Australian Nursery Manager*. Specialising in nursery water management issues, Chris' contributions include developing and running specially targeted one-day workshops for both production and retail nurseries as well as over 70 Waterwork workshops throughout Australia.

Chris has presented numerous papers at International Plant Propagators Society and National and State Nursery & Garden Industry association conferences.

This *Nursery Paper* was compiled and edited by Inga Ting, NGIA Publications and Web Coordinator.