



Nursery & Garden Industry
Queensland

How to save water in production nurseries

There are many ways that water can be saved in a production nursery. Here are 10 suggestions.

1. Measure water use

The first step in saving water is to measure how much you are using. This allows informed management and costing decisions to be made based on facts, not assumptions, and allows cost savings to be quantified.

The easiest way measure your water use is by using a water meter, but, if a water meter isn't available, water use for each growing area can be calculated from the measured flow rate of the sprinklers. Rainfall and evaporation should also be recorded, as these have a major influence on water use, and this information is useful when comparing water use from year to year.

2. Assess irrigation layout efficiency

Assessing the efficiency of the existing irrigation layout will show how the system performs against best management practice. It also gives information on mean application rates and uniformity, which can then be used to fine tune irrigation scheduling.

3. Check operating pressures

Operating pressures are critical to the efficient performance of any irrigation system. Don't rely solely on the pressure gauge at the pump, as this doesn't indicate what the pressure is at the emitter.

4. Maintain filters

Regular filter cleaning helps to ensure that the system is working at the correct operating pressure. Automated filtering systems should also be checked to ensure they are back flushing correctly.



5. Fix leaks

Regularly checking for, and repairing leaks can have a significant effect on the amount of water used. Losses not only come from the loss of water through the leak, but also from the reduction in pressure affecting the efficiency of the system.

6. Check emitters

Daily observation of emitters helps to identify blockages and any significant changes in operating pressure before major crop damage occurs. Consideration should also be given to installing more efficient sprinklers where necessary.

7. Adjust irrigation schedules

Ideally, for the most efficient use of water, adjusting irrigation scheduling should be a daily task, as irrigation times need to be adjusted to match the daily water requirements of plants. This can be done by feel, but a more accurate way is by either relating the evaporation rate to plant water use, or by weighing containers to determine how much water has been used. This allows the length of irrigation time required to bring the containers back to full capacity to be calculated.

8. Group plants by water requirements

Grouping plants according to water requirement allows scheduling to match the plants water requirements more accurately. This may be difficult to achieve easily, but can have a significant effect in reducing water use and improving plant quality

9. Develop a system maintenance programme

Check operating pressures, emitter operation, pump operation and filtration and clean, repair or replace items as they become apparent or are identified during regular monitoring checks.

10. Monitor system performance

Monitoring system performance allows the early detection of problems before they cause significant crop losses. Each block should have its pressure measured and recorded monthly. A regular efficiency test on each section of the nursery should be done every 6 months to see if the performance is declining, or if there has been a major change in the performance due to other factors e.g. leaking pipes.

Regular monitoring of overall water use will give information on how much water is being used within the nursery, and how the overall performance compares to Best Management Practice and water use in previous years.

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