

Water for Profit

BENCHMARK – IRRIGATING ONIONS



Benchmarking can be an effective way to identify opportunities for improved management. While benchmarking can be conducted on any area of your farming operations, this sheet provides a basis for your irrigation performance.

Crop specifics

Onions are a shallow rooted vegetable. Onions extract all their water from the upper 50 cm of soil so an irrigation system that applies water uniformly is essential to eliminate water and nutrient wastage. Water is critical during germination and bulb development when under-watering may prevent uniform emergence and cause small, split or double bulbs. Over-watering can produce damping-off in young plants and waterlogging and root diseases in older plants. Soil water with an electrical conductivity (EC_{se}) higher than 1.2 dS/m can cause yield reductions.

Crop benchmarks

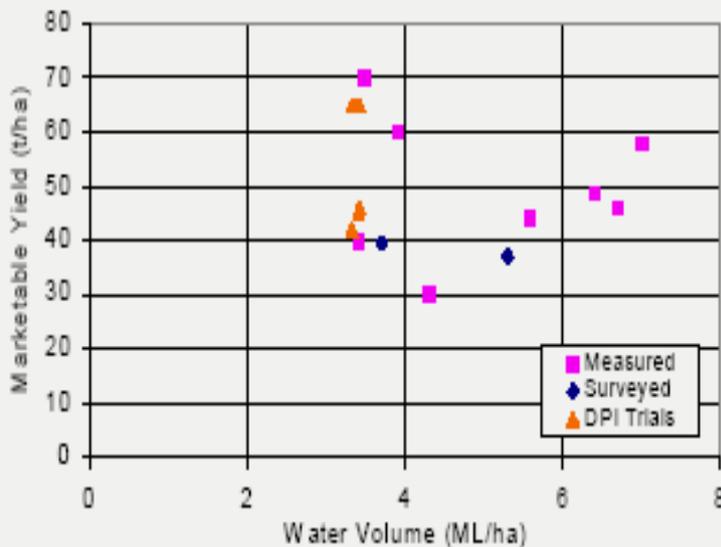
The total crop water requirement is 3 - 5 ML/ha per season with an irrigation requirement of 2 - 5 ML/ha. Best practice yields range between 60-70t/ha. The early and late plantings use more water as they grow during a hot period of the year. Onions planted around April are grown over winter and use less water.

Best practice guidelines

- Ensure the irrigation system has the capacity to meet seasonal and peak water requirements. Regular maintenance and performance evaluations should be conducted.
- Adequate soil moisture is required during plant establishment to ensure a uniform plant stand.
- A monitoring program should be used to schedule both the timing of irrigations and the volume of water to be applied.

- If using tensiometers in monitoring program, they should be installed as a pair at depths of 15 and 45 cm. For overhead sprinkler systems, irrigation should be applied when the 15 cm tensiometer reaches 30 - 45 kPa.
- Efficient crop water use and high yield potentials can only be achieved if other agronomic factors such as nutrition, disease and pest management are also optimised.

Yields of onions compared to total water applied



Best practice information has been obtained from on-farm trials and DPI research reports and is gratefully acknowledged.

For more details contact the Growcom members access line on 07 3620 3844.

Disclaimer: This information is provided as a reference tool only. Seek professional advice for irrigation specifics.

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