

Water for Profit

BENCHMARK – IRRIGATING WATERMELON



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

The profitability of watermelon production is heavily influenced by irrigation management. Irrigating too frequently early in the crop will not encourage the root structure development required during full fruit load. Similarly, under-irrigation during fruit fill can cause problems with melon sizing, hollow heart and fruit drop. Research in melon production has shown a dramatic increase of water use once flowering and fruit set have occurred. Once the melons reach tennis ball size, water use can triple in a matter of a few days.

Melons can have extensive root systems depending on irrigation type and will extract water to a depth of 60 cm.

Approximately 80 percent of water used by rockmelons is extracted from the upper 40 cm of soil. Water is readily available to the plant up to a suction of approximately 70 kPa. However, melons can be very sensitive to water stress during fruit fill.

Crop benchmarks

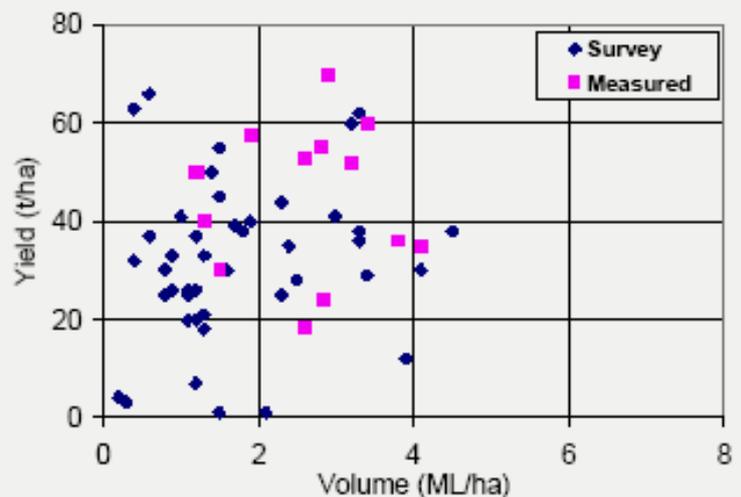
The total crop water requirement is 2.5 - 3 ML/ha per season with an irrigation requirement of approximately 2 - 3 ML/ha, allowing for inefficiencies and drainage losses. Best practice marketable yield is approximately 60 - 70 t/ha.

Best practice guidelines

- Ensure the irrigation system has the capacity to meet the seasonal and peak water requirements. Conduct regular maintenance and performance evaluations.
- A soil moisture monitoring program should be used to schedule both the timing of irrigations and the volume of water to be applied. Growers using tensiometers and capacitance probes have increased yields by implementing irrigation scheduling.

- If used, tensiometers should be installed at depths of 250 and 450 mm. Irrigations should be applied when the shallow tensiometer reads 30 - 40 kPa.
- It is important to encourage root system development in the early stages of crop growth, especially for those crops grown under plastic mulch. This will enable fruit to fill out properly and minimise fruit drop during periods of peak water demand.
- 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 watermelons compared to water applied (irrigation and effective rainfall)



For more details contact Growcom on 07 3620 3844.

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

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