Water for Profit

BENCHMARK – IRRIGATING LETTUCE

WATERFORPROFIT

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

Lettuce is shallow rooted and has a limited capacity to use water storages at depth. The soil should be kept moist at all time at avoid any check in their growth.

Approximately 85 percent of the water used by lettuce is extracted from the top 20 cm of soil. So an irrigation system that applies water uniformly and frequently (up to twice a day) is essential to eliminate water and nutrient wastage. Soil water with an electrical conductivity (ECse) higher than 1.2 dS/m can cause yield reductions.

Under-watering can lead to tip burn, failure to heart, bitterness and bolting in warmer climates. Over-watering will leach nutrients, lower yields and reduce quality. It may also cause downy mildew and sclerotinia rot.

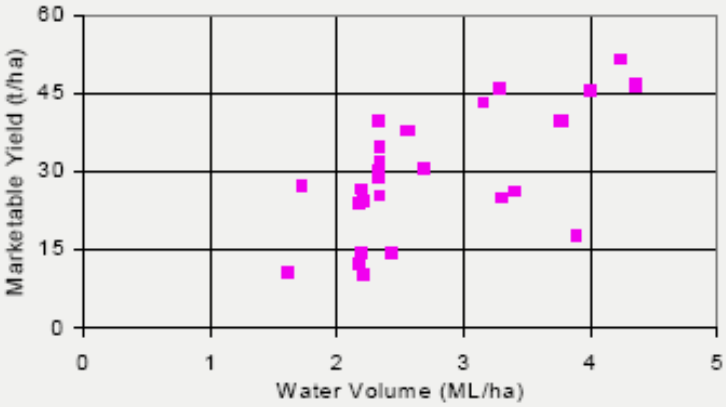
Crop benchmarks

The total crop water requirement for lettuce is 2 -3 ML/ha per season. The irrigation requirement is highly variable with summer production areas needing to apply more irrigation than autumn/ winter production areas. Best practice yield is 30 - 50 t/ha.

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 the 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 15 - 20 kPa in warm weather and 20 - 25 kPa in cool weather.
- 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 lettuce 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 Growcom on 07 3620 3844.

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