

Water for Profit

BENCHMARK – IRRIGATING TABLE GRAPES



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

Efficient irrigation management will lead to increased marketable yields through increased size and better physical appearance. Water stress before flowering will reduce shoot elongation and the growth of bunches.

Approximately 75 percent of the berry size is determined during the initial stage of berry growth. Large reductions in yield due to smaller berry diameters result from water stress between flowering and veraison (start of berry colouring). Irrigation later in the season will not overcome this reduced berry size.

Irrigation during the ripening period should aim to increase sugar content without delaying harvest. However, water stress after veraison can lower the colour density of skins. Water stress has implications for future seasons by reducing canopy growth and limiting the possible number and size of bunches. Grapevines are moderately sensitive to salinity.

Vine growth is affected at soil water electrical conductivities (ECse) greater than 1.5 dS/m.

Crop benchmarks

The total crop water requirement is 5 - 8 ML/ha. It has been reported that vines can receive approximately 50 L/vine a week and maintain berry diameter, weight and maturity.

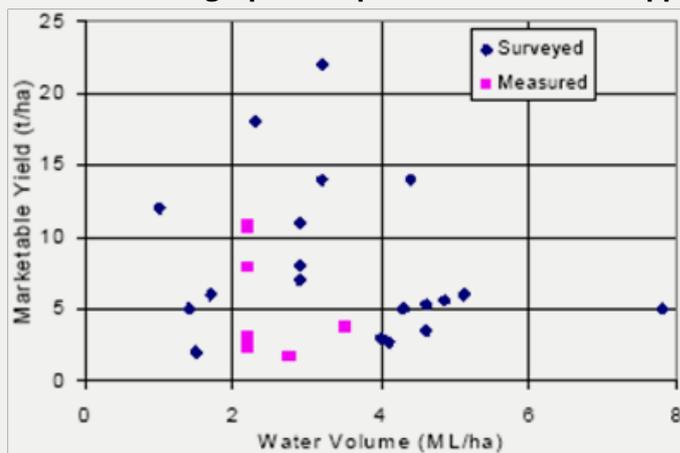
The irrigation requirement is approximately 2 - 3 ML/ha per season. Yields vary greatly depending on farming practices but are between 2 - 4 kg/vine (4 - 8 t/ha using 3 m x 1.8 m vine spacing).

Appropriate irrigation has been found to produce 85 percent of berries larger than 16 mm, sugar contents between 0.59 to 0.78 kg/vine and more than 26 bunches/vine.

Best practice guidelines

- Ensure the irrigation system has the capacity to meet the seasonal and peak water requirements. Regular maintenance and performance evaluations should be conducted.
- A monitoring program should be used to schedule both the timing of irrigations and the volume of water to be applied.
- Maintain adequate moisture through critical growth periods. Ensure adequate moisture after harvest to prolong vegetative growth and yield potential for next season.
- 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 table grapes compared to total water applied



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

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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