

# Best Irrigation

## Management Practices for Viticulture in the Murray Darling Basin

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### Check performance of irrigation system

- Regularly check and maintain your irrigation system to ensure it is operating and delivering what it should.
- Check flow rate, sprinkler coverage, operating pressures, filters and pumps.

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### Define the vineyard goal

- Set your vineyard goal to help in planning your irrigation needs and management strategies.
- The goal may include reaching specific production or quality targets or aim to reduce the impact on the environment.

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### Know your soils

- Undertake soil surveys before any new plantings.
- Use soil surveys to collect information about soil structure, rooting depth and Readily Available Water (RAW) of the soil.

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### Design the most suitable irrigation system

- Use a certified irrigation designer to develop the best irrigation design for your property.
- Designing the right irrigation system will ensure even water application and efficient irrigation.

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### Monitor, record and evaluate

- A number of factors should be monitored and evaluated to achieve best irrigation management practices:
  - Identify grapevine growth stages.
  - Measure yield, quality and maturity for all varieties.
  - Calculate WUE.
  - Monitor water quality.

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### Implement strategies to manage nutrient input and salinity

- Apply fertiliser when soils are close to field capacity. Remember – only the rootzone needs to be wet.
- Regularly monitor for salinity by taking soil and leaf samples and by doing visual assessments. Leaching irrigations should be considered if the tested salinity paste is above 1.5 dS/m (approx.).
- Grapevines growing on their own roots have a lower tolerance to soil salinity than vines on some rootstocks.

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### Implement irrigation management strategies

- Irrigation techniques that are based on controlled water stress can be a very useful way to manage vine vigour and to manipulate vine growth to improve fruit quality. These techniques include Regulated Deficit Irrigation (RDI) and Partial Rootzone Drying (PRD). They are more often used in wine grape production.
- Some of these techniques can also save water.
- Remember – RDI and PRD require accurate soil moisture monitoring.

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### Determine a basic irrigation schedule

- Irrigation scheduling is about applying the right amount of water at the right time and will help maximise Water Use Efficiency (WUE).
- You will need some basic information to determine an irrigation schedule. This information can come from soil surveys, irrigation designers, irrigation officers and measurements collected in the field. It includes rooting depth, RAW value for your soil type, application rate of the irrigation system etc.
- Use soil moisture monitoring tools to check and improve your irrigation scheduling.

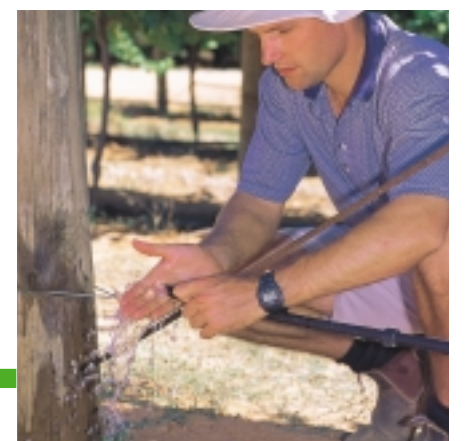
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### Know your water supply

- Remember to consider the volume and availability of water when deciding on irrigation systems and management strategies.
- Know your yearly vineyard water requirement compared to the quantity of water supply available to help in planning irrigation management strategies.

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### Develop a vineyard water budget

- Calculate monthly vineyard water requirements to estimate average water needs over the season.
- Use Reference Crop Evapotranspiration ( $ET_0$ ) and Crop Coefficient values ( $K_c$ ) to determine vineyard water requirements.

