

# Micro Irrigation Systems

Micro irrigation is the slow application of water above, on or below the soil surface at low pressures. Water is delivered at frequent intervals at or near the plant root zone via piping with micro holes, creating a dripping effect or small localised sprinklers.



This project is supported by the Australian Government's *Water for the Future* Initiative through the On-Farm Irrigation Efficiency Program.

On-Farm Efficiency Projects  
Round 1 - 2 projects  
Round 2 - 2 projects



Murray Irrigation

# Micro Irrigation Systems

## Types of Systems

### Surface

Water is applied in drips to the soil surface at the base of the plant.

### Subsurface

Water is applied in drips directly into the root zone via underground piping.

### Micro sprinkler

Sprays water from emitters onto localised areas. Used when drip systems are not practical but low volume application is desired, for example over large areas of ground cover or flower beds.

Typical cost per hectare is approx. \$6,000

## Advantages

- precise and highly efficient irrigation system
- allows for excellent control and flexibility in terms of volume, spacing and timing of water application
- ability to irrigate irregular terrain
- very high degree of water application uniformity
- run-off and evaporation losses minimised due to low application rates
- reduced weed growth as irrigation targets crop roots
- ability to fertigate and deliver nutrients via the irrigation system

## Disadvantages

- limited to certain soil types and higher value crops
- high capital cost as system requires extensive infrastructure such as piping, filtration, pumping and storage
- constant supply of clean water required
- greater energy costs due to higher pressurisation of water through filtration system

## KEY WORKS FOR EFFICIENT MICRO IRRIGATION SYSTEMS



### Pump and filtration

Used to filter and deliver water under pressure to each emitter.



### Installation of sub-main with laterals

Supplies irrigation water which is then fed to individual drip tape lines.



### Installation of drip tube

Extensive paddock preparation required to ensure tube is installed at correct depth.



### Storage system

Required for constant supply of water.



### Monitoring equipment

Use of technology allowing remote operation, irrigation management and soil moisture monitoring.