Spray Irrigation Systems

Spray irrigation is the overhead delivery and distribution of water across a field through sprinklers attached to a self supporting frame. The volume of water applied is determined by the speed of the machine.

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 - 30 projects
Round 2 - 15 projects

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Spray Irrigation Systems

Types of Systems

Centre Pivot
This system is anchored at one end and rotates around a central fixed point. The water supply and power source is located at this fixed point.

Lateral Move
This system is not anchored and both ends move at a constant speed up and down a field. The pump and power source are located at the supply point and water is delivered via a hose or open channel running through the middle of the field.

Pivoting Lateral
This system combines the above two systems operating as a linear move until it reaches the end of the field and then pivots to do another irrigation run. Creating a 'racetrack' like pattern.

Typical cost per hectare is approx. $3000

Advantages

- more efficient water use than surface irrigation
- greater accuracy and flexibility with application
- high degree of application uniformity
- ability to irrigate outside of normal irrigation season
- suitable for uneven terrain
- low application rates allow for more frequent watering

Disadvantages

- higher capital cost than surface irrigation systems
- higher infrastructure depreciation compared with surface irrigation systems
- additional energy costs to run spray equipment
- requires removal of any obstructing trees

KEY WORKS FOR EFFICIENT SPRAY IRRIGATION SYSTEMS

Lateral Move unit
Machine spans across crop and moves up and down crop along supply channel.

Centre Pivot unit
Machine spans across crop and pivots in a circle around the tower.

Lateral Move supply
Channel supplying water to mobile pump station.

Centre Pivot supply
Pipeline delivering water to Centre Pivot tower.

Pump and filtration system
Required to deliver water under pressure to sprinklers and filter water to avoid blockages.

Storage system
Important for timely, flexible and efficient water use.

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