

Improving Irrigation Practices on Light Soil Types.



Target Problems:

Some Areas within Goulburn-Murray Water (G-MW) region with light soil types have been identified as having high water use per hectare. Current irrigation practices result in excessive accessions to groundwater and low water use efficiencies. There is growing evidence that accessions to groundwater are occurring predominantly in areas of light soil types.

Project Outline:

Beginning in January 2001, this project addresses high irrigation water use on light soil types. It has long been understood that flood irrigation of light sandy soils results in high water use and greater accessions to groundwater. The Campaspe Irrigation district, located south of the Waranga Western Channel near Rochester, is one such area where this is an issue. This will be achieved by working with small groups of farmers initially in this area, encouraging the adoption of improved irrigation practices. The project aims to achieve a benchmark water use limit of 10 ML/Ha.

In the second year of the project we plan to move into other areas with similar issues, including those such as Diggora, Leitchville and Katunga,

Expected Outcomes:

The expected outcomes are as follows:

- Identification of farms with high water use
- Development of Action Plans for high water use farms
- Development of EM-31 technologies as a diagnostic tool for farms with light soils
- Significant improvement in irrigation management

People Involved:

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Participating Organisations:

Goulburn-Murray Water is carrying out this work in line with a project being run by the Department of Natural Resources and Environment, and with funding from the North Central Catchment Management Authority.

Technical Aspects:

Identifying areas with Light Soils

Identification of areas of particularly light soil types is required to prioritise areas of concern. Areas of high water use and groundwater recharge are identified with an electromagnetic technique, known as EM-31. EM-31 Surveying is used in conjunction with current and historical water use figures to identify areas in which water use is high.

Deciding on Management Options

Combining EM-31 survey information with knowledge of farm layout and whole farm planning, needs of the irrigators, needs of the various crops and other relevant information, improved management skills and planning advice and options will be offered to the landholders to help manage water use more effectively. These options are based on the experience of Goulburn-Murray Water and Department of Natural Resources and Environment staff, and will be designed to meet requirements of the individual irrigator.

Techniques to improve water use efficiency may include any one or several of the following:

- ◆ Irrigation Scheduling
- ◆ Reducing/reusing runoff
- ◆ Improvements to farm design
- ◆ Groundwater pumping
- ◆ Selecting crops with low water use
- ◆ Alternative irrigation methods
- ◆ Automatic irrigation

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