



farm water quality & treatment

SERIES 1: IRRIGATION FARM RESOURCES

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Farm water comes from a number of different sources and so its quality varies. Water sources include dams, bores, wells, rivers, town water, channels and recycled water.

Water from various sources may be of an unsuitable quality for its intended use for irrigation, stock, household or other farm activities.

It is important to identify and correct water quality problems that may affect on-farm use and productivity.

► Knowing your water quality

If you have any doubt about the quality of water you intend to use for irrigation, stock or domestic purposes, get it tested by an accredited laboratory. You should have your water tested before, and sometimes during, use. Farm water testing is available at the Environmental Health Laboratories of the NSW Department of Primary Industries. Contact the customer service centre on 1800 675 623 to determine your water testing requirements. Inexpensive and easy to use water sampling kits are also available from NSW DPI offices throughout NSW.

The Agfact *Interpreting water quality test results* (available from the NSW DPI website, under 'Agriculture') contains a summary on interpreting the results of water quality tests. It covers pH, alkalinity, hardness, saturation index, electrical conductivity, sodium adsorption ratio and chloride.

Your local NSW DPI advisory officer can advise you how to treat any specific problems in your water supplies.

Knowing your water quality allows you to plan for water treatments to avoid problems such as poor plant growth, blocked irrigation or stock watering pipes, staining and other undesirable effects of poor water quality.

► Water quality issues

Problems with water quality may have a chemical basis (for example, acidic or alkaline water or concentrations of certain elements) or be of a physical nature (for example, plant growth such as algae). Some problems may be more obvious than others.

Water quality can affect plants, soils, livestock, irrigation equipment, domestic use and general farm activities. Some water problems affect a whole range of uses, while others are restricted to more specific uses.





The Agfact, *Farm Water Quality and Treatment*, discusses these common water quality issues, and methods of treating them:

- pH, iron, hardness, corrosion, salinity, sodicity, other elements, irrigation in soil-less media, turbidity, algae, colour, taste and odour, and bacterial growth.

It also discusses the following processes aimed at improving overall water quality:

- disinfecting irrigation water, filtration systems and monitoring water quality

► Further reading

Gillett J 1998, *Managing blue-green algae in farm dams*, Agfact AC.25, NSW Department of Primary Industries, Orange.
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Mitrovic S 1997, *What scum is that? algal blooms and other prolific plant growth*, Department of Land and Water Conservation, Sydney (now available through the Department of Planning, Natural Resources and Infrastructure).

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Stephens R (ed.), *Water quality and nursery crop nutrition*, issue no 2002/11, The Nursery Papers, Nursery and Garden Industry Australia.
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Trounce B 1998, *Aquatic weed control in small dams and waterways*, Agfact P7.2.1, NSW Department of Primary Industries, Orange.
www.agric.nsw.gov.au/reader/aquatic-weeds/p721.htm

Farm water quality and treatment, Agfact AC.2, ninth edition, December 2003 available from www.agric.nsw.gov.au/reader/water-quality-supply/farm-water-quality.htm.

Series 1
Irrigation farm resources

Series 2
Irrigation systems

Series 3
Irrigation management

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