Fact sheet

Get curious · Get informed · Get involved



Water quality testing

Water quality testing should be a routine part of farm management across livestock, cropping and horticulture enterprises. The type of test depends on your farm's individual needs. Check out the why, what and how.

Why is water testing important?

Good quality water underpins successful food and fibre production. It can impact animal production, plant growth and spray efficacy, and can affect machinery and irrigation equipment longevity.

The water quality of bores, tanks, wells, creeks, rivers and farm dams can vary greatly, and it is important to understand and monitor these differences.

What should I test for?

The parameter(s) you test for depend on what you are using the water for. Use Table 1 (next page) as a guide to which water quality test would be appropriate for livestock, spraying and irrigation water.

How do I store water samples?

Samples should be sent to the laboratory for analysis as soon as possible to maintain accuracy. In the meantime, they should be kept cool and out of direct sunlight. A fridge or an esky with ice is ideal for storage. Where possible, transporting the samples with ice packs is best practice.

How do I collect a water quality sample?

How you collect a sample depends on the water source you are testing. For all samples, the collection bottle should be triple rinsed with the water you are sampling before use. A clean/new plastic bottle can be used. Do not use soft drink bottles. Bottles should be filled with no air gap – squeeze it slightly while screwing on the cap to remove all air gaps.

From tanks

Collect a sample from as close to the inlet pipe as you can. Take note of where the samples are collected from so that you can follow the same process when you re-sample.

From dams

Collect the sample from near the pump inlet, and as far from the water's edge as possible. You may need to attach the sampling bottle to the end of a pole to reach the desired sampling area.

From existing bores

Pump the bore for at least 30 minutes prior to collecting the sample. Collect the sample from as close to the bore head as possible.

From new bores

Follow the procedure as above but pump for at least 3 hours before collecting the sample.

How do I label my samples?

A label should contain the date, time, site and water source, and the collector's name, location and phone number. Ideally, this would be written on a small card attached to the bottle with a piece of string.

Make sure that the label is protected from moisture – wipe the sampling bottle clean before applying the label and keep it in a plastic bag to protect the label from moisture. Here is an example label.

J. BLOGGS, BURRA SA

18/02/2026, 2PM

SCHOOL PADDOCK

0434 123 456

Where do I send my sample(s) and how much does it cost?

Where you send the sample depends on where you are located and what you are testing for. You could expect a water test to cost between $40 and $120 depending on the test suite. Contact your local Landscape Board or consultant for advice on where to send samples.

When should I collect water samples?

If you are relying on water from dams, troughs or groundwater, it is best practice to test your important sources twice per year. Ideally, do this in summer/autumn and spring – e.g. once in February/March, then in late August/September. You should also test any new water sources at installation/prior to first use.

We're here to help

Not sure where to start or who to talk to? Get in touch with your local Landscape Board. We can assist you to find the right connections.

LANDSCAPE SOUTH AUSTRALIA NORTHERN AND YORKE

Northern and Yorke Landscape Board
Email: ny.landscapeboard@sa.gov.au
Phone: 08 8841 3444

www.landscape.sa.gov.au/ny

What should I test for: **Livestock**

Parameter	Description	Desired level
Salinity as Total Dissolved Solids (TDS) or	A measure of salt concentration. Measured in parts per million (ppm) or mg/L.	<4000 ppm (mg/L) ideal.
pH	A measure of the acidity or alkalinity of a substance. <7 is considered acidic. 7 is neutral. >7 is considered alkaline.	6.0 – 9.0
Nitrate (NO3)		<100 mg/L generally. <400 mg/L for cattle.
Sulphate (SO4)		<500 mg/L
Copper (Cu)		<0.5 mg/L (sheep) <1.0 mg/L (cattle)
Molybdenum (Mo)		<0.01 mg/L
E. Coli		<100 cfu/100mL
Cyanobacteria		<0.4 mm^3/L or 1 µg/L

What should I test for: Spraying

Parameter	Description	Desired level
Desired level	Measures the concentration of certain cations including calcium, magnesium, iron and aluminium.	<200 mg/L
Alkalinity (bicarbonates)	A measure of dissolved carbon dioxide in water (carbonic acid). Can precipitate as scale when exposed to air.	<175 mg/L
pH	A measure of the acidity or alkalinity of a substance. <7 is considered acidic. 7 is neutral. >7 is considered alkaline.	Between 5-8 is unlikely to affect most sprays. Strongly acidic conditions (<5) can increase corrosion of sprayers and can increase compatibility issues with complex tank mixes.
Salinity measured as TDS or EC	A measure of salt concentration. TDS is measured in parts per million (ppm) or mg/L. EC is measured as deciSiemens per centimetre (dS/cm).	<1000 ppm (TDS) <0.5-1000 dS/cm (EC)

This fact sheet is funded by the South Australian Drought Hub through the Australian Government's Future Drought Fund.

SOUTH AUSTRALIAN DROUGHT RESILIENCE ADOPTION & INNOVATION HUB
This program received funding from the Australian Government's Future Drought Fund

Australian Government
Department of Agriculture, Fisheries and Forestry
Future Drought Fund
SA DROUGHT HUB