

Soil acidity



Land | Agricultural land

South Australia's environmental trend and condition report cards 2023



Trend
Getting better



Condition
Fair



Reliability
Good

STATE

Trend

The trend in agricultural soil acidity in South Australia has been getting better since 2018.

Soil acidity reduces soil health, which affects agricultural productivity particularly where the soil pH is below 5.5. Increasing soil acidity can be counteracted by adding lime to the soil. If not enough lime is applied over time, the soil will become more acidic. The amount of lime used to manage acidic soils is monitored to help estimate the trend in soil acidity.

Over the last 5 years, the use of lime has increased in most agricultural districts that have acidic soils. However, the area of land with acidic soils is also increasing.

The trend in agricultural soil acidity is improving within the state due to increased lime use (top figure). In 4 agricultural districts the trend is getting better, and in the other 10 districts the trend is stable. This contrasts with the period from 1998 to 2018 when the trend was getting worse because not enough lime was being used.

Condition

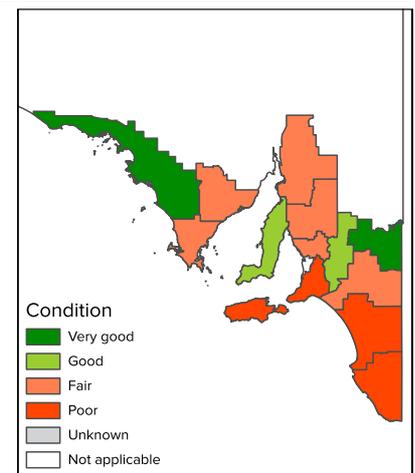
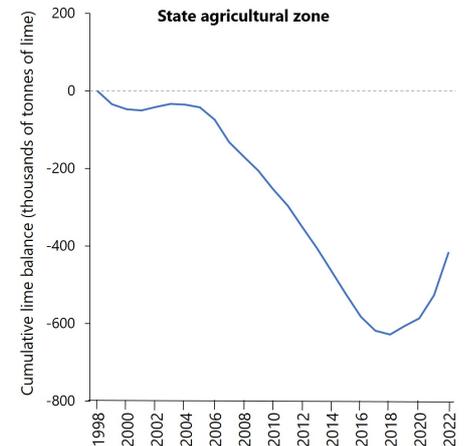
Soil acidity in South Australia's agricultural zone is rated as fair.

The condition rating for soil acidity is based on the area of land currently acidic, and the proportion of land that could potentially become acidic by 2050.

The acidity condition in agricultural districts ranges from poor to very good (bottom figure). Districts with a poor condition have large areas of naturally acidic soil and require higher application of lime.

Adequate application of lime is required to overcome increasing acidity and maintain both soil health and the productivity of agricultural land in South Australia.

Soil acidity on agricultural land is fair overall and has started to improve with higher lime use.



Why is managing soil acidity important?

Agricultural land supports South Australia's agricultural industries, which are worth \$17.3 billion annually.

Soil acidity reduces the growth and production of most agricultural plants. The annual loss of agricultural production in South Australia due to soil acidity is estimated at \$88 million.

What are the drivers?

About 20% of South Australia's agricultural land has soils that are currently acidic.

Agricultural production accelerates soil acidification. Acidification rates are increasing due to higher agricultural productivity and greater use of nitrogen fertilisers.

Soil acidification is a complex chemical process, and its effects are not always recognised or understood. Treatment of acidic soils relies on the availability of good quality and affordable lime, which varies over time and between regions.

What is being done?

The Government of South Australia works with industry, agribusiness, agricultural advisers and farmer groups to increase awareness, detection and treatment of soil acidity. The agricultural industry has been proactive in promoting the use of lime on acidic soils over the last few years.

Technology is now available to map pH variation within paddocks so that lime application is targeted where it is most needed.

Soil mapping information and soil test data are used to estimate the extent and severity of soil acidity.

For further information see: [technical information](#)



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Government of South Australia