

# Soil protection: adoption of no-till



Land | Agricultural land

South Australia's environmental trend and condition report cards 2023



Trend  
**Stable**



Condition  
**Very good**



Reliability  
**Poor**

RESPONSE

## Trend

Adoption of no-till for sowing annual crops on agricultural lands is considered to be stable after improving from 1999 to 2016.

No-till is a method of sowing crops with a minimum amount of soil loosening. This reduces the risk of soil erosion compared to tilling the soil before sowing.

Surveys of agricultural landholders in South Australia were conducted from 2000 to 2017. In these surveys, landholders were asked questions that included how their crops were sown. The survey results showed that the proportion of the dryland crop area sown using no-till methods increased from 16% in 1999 to 83% in 2016 (top figure).

Since the last landholder survey in 2017, estimates of no-till adoption have been based on field surveys and observations by regional agricultural advisers. No-till cropping has levelled off at about 80% over this period to 2022. This trend is considered to be stable across all the regions where crops are grown.

## Condition

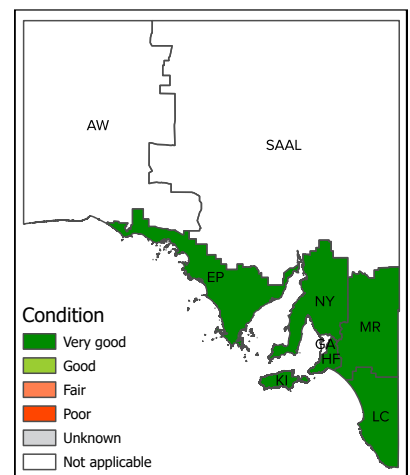
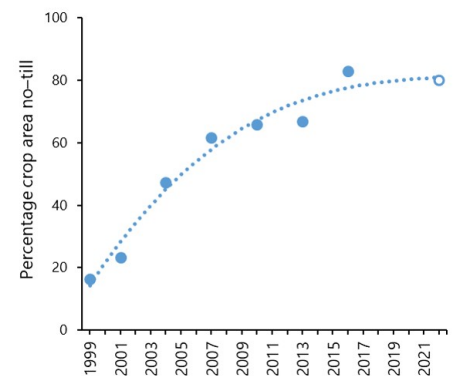
Adoption of no-till cropping methods across South Australia's agricultural zone is rated as very good.

It is estimated an average of 80% of the state's dryland crop area is now sown using no-till in all the agricultural regions. This is considered a very good level of no-till cropping (bottom figure).

It is not practical for no-till to be used on 100% of crops sown. Sometimes the soil needs to be tilled before sowing crops, for example, to help control weeds, incorporate lime, or break up hard-setting soils.

**Agricultural crops are now mostly sown using no-till and adoption of this method has reached a stable level.**

State agricultural zone



## Why is protecting agricultural land from soil erosion important?

Protecting land from soil erosion, for example using no-till cropping, is critical for maintaining South Australia's annual \$17.3 billion agricultural industry. Protected agricultural land also minimises dust storms and reduces sediments and nutrients that reach our waterways.

## What are the pressures?

About 61% of South Australia's agricultural soils are susceptible to wind erosion, and 32% are susceptible to water erosion. Soils can be exposed to erosion in very dry seasons when there is not enough plant growth to cover the soil. Tilling the soil, bushfires and managed burns (for pest and weed management) also remove plant cover, increasing the risk of erosion.

Future climate predictions forecast warmer temperatures, reduced rainfall and more severe storms across most agricultural areas in South Australia, which could increase the likelihood of erosion events.

## What is being done?

The Government of South Australia works with agribusiness, advisers, industry and farmer groups to improve soil management and assist farmers to adopt practices that protect the soil from erosion. The agricultural industry has been very proactive in promoting and facilitating the adoption of no-till seeding technology over the last 20 years.

No-till cropping methods minimise the risk of soil erosion compared to sowing crops after the soil is fully tilled. Agricultural crops are now mostly sown using no-till.

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



This report is a work in progress. As resource monitoring improves, so too will our ability to describe trends in condition. Licensed under [Creative Commons Attribution 4.0 International License](#). © Crown in right of the State of South Australia.



Government of  
South Australia