

Don't Guess —Soil Test

Time to *Re-Lime* Lime

You need to know your soil pH

Two thirds of the wheatbelt is estimated to be affected by soil acidity and yield reductions in wheat can be up to 20–30%. The Avon Catchment Council Soil Acidity Project has shown that 80% of topsoils and 60% of subsurface soils in the Avon River Basin are below regional targets*.

While liming to counter soil acidity needs to be part of normal farming practice in most areas, accurate knowledge of the soil pH allows more precise management decisions. Subsurface soil testing to determine the pH profile of the soil is vital. In many soils, an acid subsurface or acid layer may be limiting root growth and access to water and nutrients.

Test appropriately

The best time for sampling soil for pH is summer, when most soils are hot and dry with minimal biological activity. Soil sampling programmes should take into consideration paddock variability. It is important not to under-sample; knowing and understanding 'management areas' within paddocks will allow targeted lime inputs to maximise economic return.

Topsoil pH can be quite different than the subsurface soil and sampling only the topsoil may lead to inadequate lime applications. Samples should be taken at 0–10 cm, 10–20 cm and 20–30 cm to detect subsurface acidity. In WA, it is standard to measure pH using one part soil to five parts 0.01 M CaCl₂.

Sampling 25% of a farm each year enables a four-year rotation. This is an adequate timeframe to detect changes and allow adjustment of liming practises. Samples need to be properly located (GPS) to allow comparable repeat sampling.

The best option is to use a specialised soil-sampling contractor and seek expert advice for individual requirements.

Manage soil pH

The ACC target soil pH values of 5.5 in the topsoil and 4.8 in the subsurface for the Avon River Basin are a good guide for all agricultural regions in WA. Maintaining pH above 5.5 in the topsoil ensures sufficient alkalinity to move down and treat subsurface acidity.

Even the most experienced farmers and advisers cannot guess soil pH; the only way is to sample and measure it.



Soil Testing—The 1st step in best practice management of soil acidity

- Sample soil at 0–10 cm, 10–20 cm and 20–30 cm
- Take paddock variability into account
- GPS locate samples
- Re-sample every 3–4 years
- Apply lime to keep topsoil pH above 5.5 and subsurface pH at 4.8

08/09 subsidies yet to be announced
Avon River Basin

Subsoil testing subsidy
Call Precision SoilTech
1800 644 951

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Rule-of-Thumb Lime Guide

(Seek expert advice to develop individual recommendations)

Soil depth	pH	Lime amount over 5 years
0–10 cm	under 5	2 t/ha
	under 5.5	1 t/ha
<i>plus</i>		
10–20 cm	under 4.5	2 t/ha
	under 4.8	1 t/ha
<i>plus</i>		
20–30 cm	under 4.5	1 t/ha
	under 4.8	measure pH in 3 years

*The Avon Catchment Council has set a target pH_{CaCl₂} of 5.5 for topsoils and 4.8 for subsurface soils in the Avon River Basin by 2020.

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