

## Why lime? - the Thomas story

The lime story is a simple one for Alan Thomas. He applies lime to increase the soil's pH. Alan comments, "Back in 2012 I took a number of soil samples across both properties and the  $\text{pH}_{\text{CaCl}_2}$  in all the paddocks was in the mid 4's. I knew from information I'd read and heard that low pH would be adversely affecting my overall productivity so I started a liming program the next year". Alan's aim was to lime 20% of the farm each year and now, five years later, that aim is just about achieved.

"I plan to soil test paddocks from now on to monitor the pH and will lime paddocks again once the pH falls below 5" he adds. Lime is applied at 2.5t/ha and pH has increased. A paddock that had a  $\text{pH}_{\text{CaCl}_2}$  of 4.6 was limed in 2013 and had increased to 5.5 by 2015.

Primary Industries and Regions SA (PIRSA) staff with assistance from the GRDC and Department of Environment, Water and Natural Resources (DEWNR), have developed three computerised decision support tools to assist landholders and advisers to make better decisions in treating soil acidity. They are:

- **AcidCost** - used to estimate the impact of acidification on production (i.e. the cost of not liming)
- **LimeCheque (Lime Sources Cost Comparison)** - a tool for calculating lime application rates for acidic soils and comparing the costs of lime from different suppliers
- **Maintenance Liming Rate Calculator** - a tool for calculating the replacement lime requirement to offset annual acidification and maintain the current pH of the soil.

All the tools can be found at <http://agex.org.au/project/soil-acidity/>

\*The Acidity Cost calculator shows that the low pH ( $\text{pH}_{\text{CaCl}_2}$  4.5) was costing Alan about \$50/ha/yr in lost production. Liming to increase the pH to 5.0 will cost him \$43/ha (FIGURE 2). In other words, the lime should pay for itself in the first couple of years but Alan will continue to reap the benefits of that lime application for up to another 10 years.

### The farm facts

**Operators:** Louise, Alan and Tanya Thomas

**Location:** Hundred of Haines and MacGillivray  
(2 properties)

**Size:** 2,175 arable ha

**Livestock:** Merinos, prime lambs, plus cattle

**Pastures:** annual rye grass, phalaris, cocksfoot  
and sub clovers

**Soil Type:** sandy loam over clay.  
Key issues are acidity and salinity

**Average rainfall:** 525mm



Tanya and Alan Thomas trying out the  
Acidity Tools

## Why lime? - the Thomas story (cont.)

As nearly all the paddocks have now been limed, Alan's priority is on maintaining the soil pH above 5. \*The Maintenance Liming Rate Calculator (FIGURE 3), is a handy tool to work out how much lime will be required over time to balance the acidity caused by farming systems. In Alan's case this is approximately 0.5t/ha/yr and the tool shows what is actually driving this acidification.

In the good years of 2012, 2013 and 2016 Alan grew a lot of feed and paddocks had high clover contents resulting in more acidity than in the poorer years. "It's the old adage that the more productive your system is, the more lime you will need to apply but I'd rather be growing more feed and applying lime than not growing the feed and not needing to lime" Alan says. "Plus the other tools have shown me that I'm financially better off to lime anyway. It's a win - win situation."

*\* NOTE: Examples of "Soil Acidity Tools" referred to in this case study, are found at the end of the Case Study section in this document.*

### Take Home Messages

- The only way to accurately know your soil pH is to send a sample for a laboratory test (soil testing kits are available from the PIRSA Office in Kingscote)
- Have a look at the on-line acidity tools. They are easy to use and extremely helpful in guiding liming decisions
- Liming will pay for itself, often in the first year.

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### For further information contact

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