

Lime or Gypsum – Which is Best?

If Gypsum and Lime are both sources of Calcium and the soil is not really very acidic, does it matter which one you use?

“Gypsum and Lime both have Calcium, but they do very different things in the soil”, says Ted Mikhail, Managing Director of SWEP Analytical Laboratories.

Lime is Calcium Carbonate and although not very soluble can bring changes in the soil within only a few months. This is because it reacts directly with Hydrogen on the surfaces of soil colloids (clay & humus particles) – it doesn’t need to dissolve first.

“Hydrogen reacts with the Carbonate in Lime to give Bicarbonate and the Calcium takes the place of Hydrogen on the colloid surface”, Mr Mikhail said. “Then the bicarbonate breaks down into carbon dioxide and water.”

Gypsum is different – it is Calcium Sulphate. Although also not very soluble it can only operate once dissolved. This time, Gypsum swaps Calcium for either Magnesium or Sodium, which are then leached out of the soil. This makes Gypsum very useful for dealing with situations where these elements (Mg & Na) are present in excess.

“Many Australian soils are high in Magnesium or Sodium,” Mr Mikhail said. “To get the right proportions of these minerals, you sometimes need to use Gypsum to help remove the excess through leaching.”

Naturally, it is important not to apply too much, so the application rate should reflect the quantity of unwanted minerals you are trying to leach out. This will give very different and often much lower application rates than would be used for the so-called ‘Clay-breaking’ effect of Gypsum.

For more information on improving your soil, contact Ted Mikhail at SWEP Analytical Laboratories on (03) 9701 6007.