

Reduce your NPK fertiliser cost by 50%



IT IS understood that growing almost anything increases your soil acidity or lowers the soil's pH. While Aglime easily corrects acidification the final target pH level for optimum nutrient availability is and always has been a moving target.

WHAT IS THE OPTIMAL PH AND WHY?

Your soil's pH is one of the key drivers in making nutrients available to the plant.

With a pH that is too low (< 5.5) trace minerals such as Aluminum become available which can heavily diminish growth or even kill crops. While the general consensus is that a pH of 5.5-5.8 is 'good enough', the science just doesn't back this up.

The absolute building blocks for growth such as Nitrogen, Phosphorus, Potassium, Calcium, Sulphur and Magnesium, are not even close to their peak availability at a pH of 5.5 as shown in the table below.

As you can see a pH at 5.5 seems inefficient and illogical. However, a pH between 6 and 6.5 increases availability exponentially and even starts peaking across many nutrients.

"One aspect that has baffled us for years, is the apparent disconnect between fertiliser application and the availability or efficiency of the very nutrient being applied due to soil acidity."

Almost every element of a fertiliser is represented in the nutrient availability table. When you are spending good money on fertiliser, you should be concerned if your advisors aren't ensuring that the nutrient you are applying is at, or near, maximum availability. If they are not, you need to ask yourself why not? Maybe they have a vested interest in selling more fertiliser?

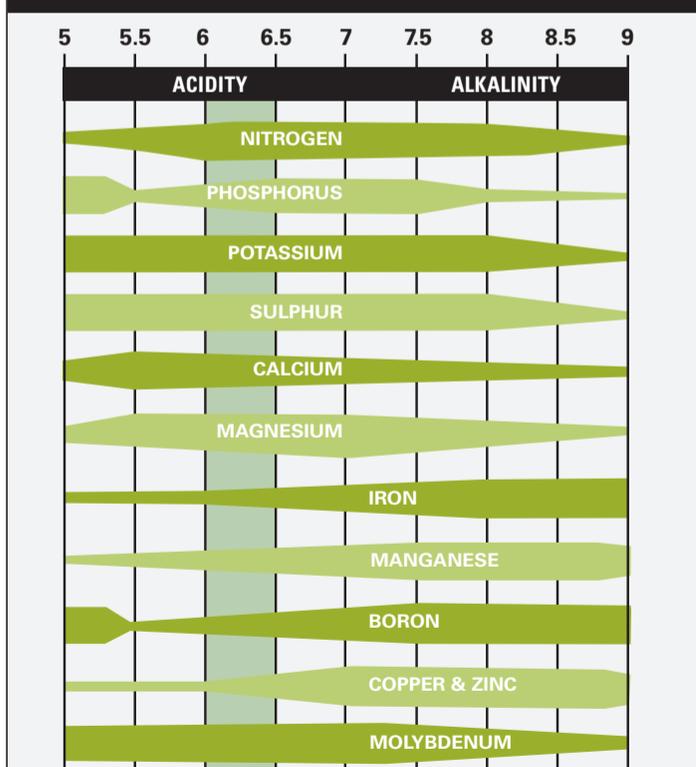
One of the fastest ways to neutralise soil acidity and increase pH is to apply lime. Liming is relatively cheap, especially when you consider that a shift in pH could potentially double the efficiency of a fertiliser in both the short and long term. The fertiliser efficiency table indicates this point and goes some way to show how a capital investment in lime may affect your overall and ongoing annual fertiliser spend.

FERTILISER EFFICIENCY AT VARIOUS SOIL PH VALUES

Soil pH	N Efficiency	P Efficiency	K Efficiency	Overall Fertilizer Efficiency
pH = 6.5	95%	63%	100%	86%
pH = 6.0	89%	52%	100%	80%
pH = 5.5	77%	48%	77%	67%
pH = 5.0	53%	34%	52%	56%

vanRoestel, J. (2014, March). The Value of Maintaining a Good soil pH.

NUTRIENT AVAILABILITY TABLE



NOT ALL LIME IS CREATED EQUAL

As a rule of thumb 1 tonne/ha of high quality Aglime will raise the pH by 0.1 pH unit. Therefore a 6 tonne/ha application is required to increase the pH from 5.7 to 6.3. To maintain the optimum pH of 6.2-6.5, maintenance applications of at least 500kg per annum will be required.

The above rates are based on high quality Aglime – that means a lime equivalency or 'as delivered' Calcium Carbonate content of 90% or greater.

The particle size should meet New Zealand Aglime standards of 50% passing 0.5mm and no more than 10% passing 2mm to allow good even spreading and consistent

long term release into the soil. Consider solubility and ensure you are dealing with a limestone resource that has been proven to lift pH as expected. Talk to a few neighbours, they will know the history.

Keep in mind that many lime companies can create specific lime and fertiliser/mineral blends prior to dispatch to make your annual applications even more cost effective.

SOIL PH TESTING

It is vital that you have a comprehensive soil test done prior to any fertiliser application to show what other trace minerals are present. Talk to your specialist lime company today.