

Using the lime requirement result in the expressSoil report

How Much Lime Should Be Applied?

The expressSoil soil test report will indicate the lime requirement in tonnes per hectare using the equivalent of 90% of pure calcium carbonate (CaCO_3) and a default target pH of pH 6¹. Since most liming products are not likely to be pure calcium carbonate, calculate how much product to apply. To do this, find out about the CALCIUM CARBONATE EQUIVALENT (CCE)². Next, find the liming requirement stated in the soil test report. Using these two numbers, perform a calculation as in the following example for a product with 70% calcium carbonate equivalent:

1[t/ha] 90% calcium carbonate equivalent= 1.29 [t/ha] 70% calcium carbonate equivalent
(90 was divided by 70 to adjust the application rate)

Are All Liming Materials The Same?

As indicated in the table below, all liming materials are not the same. They can differ in price, safety, ease of application, calcium carbonate equivalent, and rate at which they work. **Gypsum** (calcium sulfate) is a neutral substance and not and not a liming material.

Liming Materials and Their Characteristics

Material	CCE %*	Rate of pH change	Max. recommended rate per application in crop [t/ha]	Other comments
Burned lime Quicklime, CaOxide	180	Fast	0.45-0.6	Hazardous, difficult to apply
Dolomitic limestone	70-95	Slow	2.2-3	Also a source of magnesium
Ground limestone	70-95	Slow	2.2-3	
Hydrated lime	140	Fast	0.9-1.2	Hazardous, difficult to apply
Pelletised limestone	70-95	Fast	2.2-3	Easy to apply; more expensive than other sources

*Approximate values, your supplier will be able to give you actual percentages

¹ pH 6 is set as the default because at this pH, Al toxicity will not occur. The lime requirement is therefore only calculated when the soil pH is below pH 6. The default pH may be adjusted to a higher target pH value on request.

² CALCIUM CARBONATE EQUIVALENT (CCE) - Expression of the acid-neutralizing capacity of a carbonate rock relative to that of pure calcium carbonate (e.g. calcite). It is expressed as a percentage. For pure calcite the value is 100%, pure dolomite the value is 108.5%. Actual CCE of most limestone will vary from these percentages due to impurities in the rock, and the fact that most commercially available limestones have a mixture of calcite and dolomite rather than either in its pure form.