**CALCIUM IMPROVES FERTILISER EFFICIENCY**

Acidic and Low Calcium soils inhibit the plants ability to uptake and use nutrients, including fertilisers.

**TABLE 1: Effect of soil pH on N, P & K availability (%)**

<table>
<thead>
<tr>
<th>SOIL ACIDITY</th>
<th>PERCENT UTILISED</th>
<th>FERTILISER WASTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nitrogen</td>
<td>Phosphate</td>
</tr>
<tr>
<td>Strongly Acid 5.5pH</td>
<td>77%</td>
<td>48%</td>
</tr>
<tr>
<td>Medium Acid 6.0pH</td>
<td>89%</td>
<td>52%</td>
</tr>
<tr>
<td>Neutral Acid 7.0pH</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**CONTACT US**

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**NOT ALL AGRI LIME IS THE SAME**

ARE YOU BUYING THE CORRECT LIME FOR YOUR SOIL TYPE?
ARE YOU GETTING VALUE FOR MONEY?

McGrath's Limestone has a TNV (Total Neutralization Value) of 98.5% and one of the highest calcium limestone deposits in Ireland.

ENV is a measure of “Effective Neutralizing Value”, it is a measure of how effective the limestone is.

McGraths Limestone from Cong has proven to be up to 50% more effective than competitors Agri Lime on the market.

**McGraths are licensed by the Department of Agriculture to sell ground limestone**

Our limestone is graded and quality tested daily by XRF for a chemical and elemental analysis. This ensures a consistent premium grade limestone and a high purity calcium content with perfect granular size for Effective Neutralising Value.
**GOOD SOIL STRUCTURE ASSOCIATED WITH CORRECT CALCIUM LEVELS**

- **CALCIUM FLOCULATES THE SOIL**
- **Drainage improves**
  Topsoil allows excess water to pass through to subsoil, when the ratio between air, water, minerals and organic matter is correct in the soil.
- **Longer growing seasons**
  Warmer soils mean growth starts earlier in spring and goes on later at the back end.
- **Soils become robust and more resistant to slumping**
  Soils are harder to damage and recover sooner after poaching or compaction when exposed to traffic by machinery or animals in wet conditions.
- **Plant roots penetrate deeper**
  The roots forage in the whole soil for nutrition, making the best of what's available from nature.
- **Nutritionally balanced plants result**
  These are healthier for the animals consuming them. Fewer problems are experienced by farmers when balance is achieved. Profits improve!
- **Biological life in the soil improves**
  Earthworms, insects, fungi and bacteria thrive and speed up the recycling process of animal and plant residues.

**WILL LIMING MY LAND HELP ME TO GET BETTER RETURNS FROM FERTILISERS?**
Yes! For example; 2 bags of 0:10:20 spread on well limed grassland will give about the same return as 3 bags of 0:10:20 on land needing 4 tons lime per acre.

**WHEN IS THE BEST TIME TO LIME THE LAND?**
After tight grazing or after silage.

**WHAT PRECAUTIONS SHOULD I TAKE IN LIMING SILAGE GROUND?**
Make sure no lime dust comes in with silage sward. It interferes with silage fermentation.

**WHAT ABOUT LIMING LAND WHILE STOCK ARE GRAZING ON IT?**
Intake of lime-dust by stock will reduce milk yield and cause digestive upset. After a few good showers the Lime will be washed off the grass and released into the soil.

**CAN I SPREAD LIME AND FERTILISERS AROUND THE SAME TIME?**
After spreading lime, do not spread Urea or Sulphate of Ammonia or Slurry for min. 3 months. After spreading Urea or Sulphate of Ammonia or Slurry there is no problem with spreading Lime.

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**PHOSPHORUS**

Lime has a major role in maximising the availability of P in our soils.

Phosphorus is now the most expensive nutrient to buy and world P stocks are decreasing thus making it more expensive into the future.

Maintaining the correct soil pH will pay dividend in terms of increasing the utilisation of both soil and applied P as manure or bag P fertiliser. To maximise P uptake in grassland aim to maintain pH 6.3 and for tillage soils aim for pH 6.5.

**Source: Teagasc, Johnstown Castle**

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Mark Plunkett, Soil Nutritionist at Teagasc says:

“Grassland soils maintained close to the target pH will have benefits of increased yields, more efficient utilisation of applied fertilizers and manures and better persistence of the more productive species in the sward such as perennial ryegrass and clover.”