

"Inspiring Farmers to Safeguard Soils"

Newsletter 1

Welcome to the first newsletter of the PROSOILplus project. In this newsletter we give you a roundup of the spring Regional Development Group meetings.

The focus for PROSOILplus activity is on one of our six Participatory Research Farms around Wales.



More to come on those farms in our next newsletter!

Spring meetings were held around Wales bringing people with an interest in soil health and management together for an evening's discussion. We will keep you informed of any future meetings taking place in your area.

The theme at these meetings was <u>lime and the</u> <u>importance of soil pH</u>. Answers to some of the frequently asked questions from the meetings are provided here.

Q: Does spreading lime affect earthworm populations? Is it true that only low rates of lime should be applied to avoid killing worms?

A: Limestone has very low solubility and no adverse effects on earthworms- we don't have evidence from research that points to earthworm populations being adversely affected.

Q: What products are available to neutralise alkaline soils? Assuming that highly alkaline soils usually require irrigation for agricultural production, over time, to what extent will this lower the pH?

A: Irrigation and rain will gradually reduce pH over time and people do add sulphur which is acidifying and other products such as Iron & Aluminium Salts. The acidifying effect is difficult to measure accurately though due to the buffering action by the soil. Fertilisers will also acidify the soil over time. **Q:** How is the amount of lime required calculated? **A:** *Details are available in the RB209 handbook available online in Section 1 (page 13)* https://ahdb.org.uk/knowledge-library/rb209-section-1principles-of-nutrient-management-and-fertiliser-use *To estimate the lime recommendation (in t/ha of ground limestone), multiply the liming factor for each soil type and land use combination by the difference between the initial (measured) and target soil pH* e.g. On a silt loam the factor for arable is 7, therefore 7 x (6.5-5.9) = 4.2t/ha ground limestone On a clay loam the factor for grassland is 6, therefore 6 x (6.2-5.9) = 1.8t/ha ground limestone

To maintain pH, an application of between 2t/ha and 5t/ha of ground limestone will be required every 4 years.

The table below indicates the range of lime application required to counteract different scenarios:

To counteract:	Weight of CaCO3 applied
Acid forming fertilisers	0-250 kg/ha
Removal of basic cations in harvested crops	50-250 kg/ha
Neutralisation of acid forming CO2 in water & leaching - varies with climate, free carbonates and texture	100-1000 kg/ha
Neutralisation of acid precipitation ("acid rain")	20 -100 kg/ha

We hope you have enjoyed reading this first newsletter and we look forward to giving you a roundup of Participatory Research Farm activity in our next newsletter. You will find more information on our website <u>www.prosoil.wales</u>. If you have any queries, please email Jan Newman at <u>jln@aber.ac.uk</u>

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