ClieNFarms
Climate Neutral Farms

ClieNFarms Practice Abstracts

The importance of improving soil fertility

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Optimising soil fertility is important to grow adequate quantities of high-quality grass to meet herd feed requirements to support animal production. Soil fertility tests measure soil pH, phosphorus (P) level and potassium (K) level. Optimising soil pH by applying lime is essential to increase herbage production through increased nutrient availability and nutrient use efficiency, as well as accelerating the activity of N fixing bacteria and earthworms, and improvements in soil physical structure.

Soil sampling should be carried out every 1 – 2 years on farm to provide farmers with data to inform decisions around fertiliser application. To carry out soil sampling, split the farm into areas of 2 – 4 ha to sample. Use a soil corer which takes a sample of the top 10 cm of soil and take approximately 20 soil cores per sample in a V or W shape across the paddock (c. 1-2 ha).

Based on the soil test results, identify the areas of the farm that require lime, and the areas with high and low P and K indexes. Organic manures should be targeted towards areas with low soil P and K Index (Index 1 and 2). Maintenance levels of P (20 – 30 kg P/ha/year) and K (30 – 40 kg K/ha/year) can be applied to Index 3 soils. Soils that are Index 4 do not require P and K fertiliser.

Figure 1 : Soil sampling.

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