



SILAGE DECISIONS FACTSHEET



SOIL pH

Maintaining soil pH or acidity at target levels will ensure good bacterial and earthworm activity as well as allowing optimum nutrient uptake and release, thereby encouraging good crop growth. Yield reductions will result if pH falls below 6 as illustrated in the table below.

Losses in grass production due to nutrient deficiencies (DM/ha)

Soil pH				
<4.5	4.5 – 5.0	5.0 – 5.5	5.5 – 6.0	6.0 – 6.5
87%	88%	91%	96%	100%

Optimum soil pH depends on crop and soil type:

Optimum soil pH for grass crops in different soils

Cropping	Soil Type	Optimum pH
Grass	Light	6.0
	Medium	6.0
	Heavy	6.0
	Organic	5.7
	Peats	5.3

Soil samples should be taken to measure soil pH and is best done alongside analysis for phosphate and potash status. Multiple cores taken to a depth of 7.5cm in grassland and 15cm in arable fields should be bulked up before being analysed. Do not sample within 6 months of lime or fertiliser application.

- Most swards should be maintained with a pH of 6 – 6.5
- Liming of established swards is recommended when pH is less than 5.9
- Reseeds should receive lime if pH is below 6.4.
- Over liming can reduce mineral availability so it is important to keep pH within target band.
- On lighter soils less lime is needed to raise pH
- To maintain clover levels pH levels should be 6.0 – 6.5

Lime sources

The effectiveness of lime depends on:

- Neutralising Value (NV) -
- Fineness of grinding – finer material is more quickly available
- Hardness of parent rock – softer materials become available more easily.

Ground limestone is the most popular product and the benchmark against which other products are compared. Lime is best applied well before sowing or planting as it can take some months to have its full effect on soil pH.

Further information

RB209 - Published by DEFRA - is available free online:

www.defra.gov.uk/farm/environment/land-manage/nutrient/fert/rb209/intro.pdf

Factsheet by Brian Pain, Creedy Associates.