



# NUTRIENT WISE DEMOS 2012

PRESENTED BY CREEDY ASSOCIATES

DUCHY COLLEGE

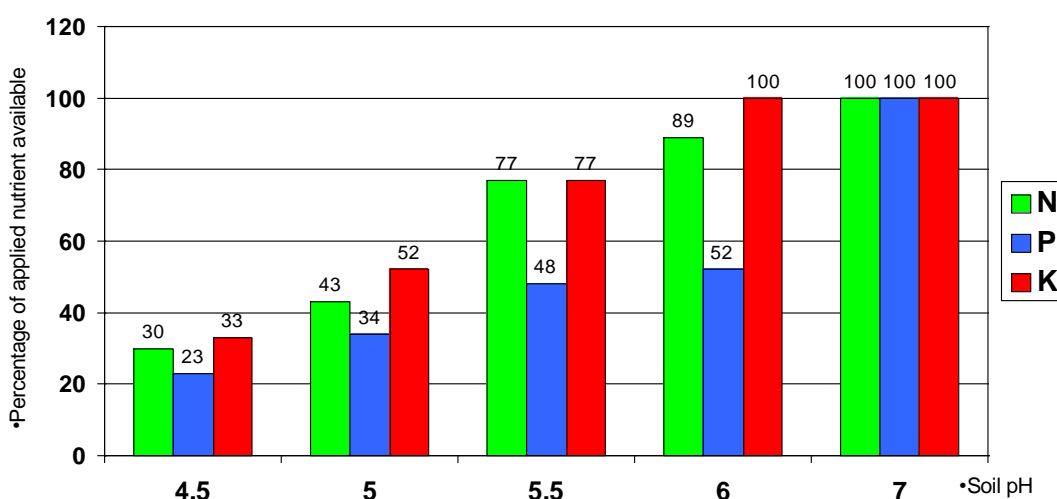
SATELLITE DEMONSTRATION

SOIL CHEMISTRY AND GRASSLAND LIMING



**This demonstration aims to discuss the importance of liming grassland and which products are the most cost effective.**

- Getting soil chemistry correct is important to maintain grass growth.
- Soil testing on a regular basis (at least once every 3 years) will give you information on the **soil pH** and the levels of **Phosphate**, **Potash** and **Magnesium** in the soil. Soil tests cost approximately £10 per sample.
- Soil pH is a measure of the acidity and alkalinity of the soil. The pH of soils ranges from pH 4 where most crops will fail to pH 8 for soils rich in calcium or magnesium.
- For permanent grassland aim to maintain soil pH at pH 6. Remember soil pH is a logarithmic scale so pH 5 is 10 times more acidic than pH 6.
- PH is affected by the amount of calcium that is in the soil. Soil pH decreases over time especially in areas of high rainfall as calcium is washed from the soil.
- Ground limestone is commonly applied to correct soil pH.
- Aim not to apply more than 7.5t/ha 3t/ac in one application to established grassland. If more than this is required split into a spring and autumn application.
- Soil pH is important as it affects the availability of other nutrients within the soil.



- Maintaining soil **Phosphate (P)** and **Potash (K)** indexes are also important to maximise grass growth. Indexes range from 0 to 6. For permanent grassland aim to maintain P and K at indexes 2-3.

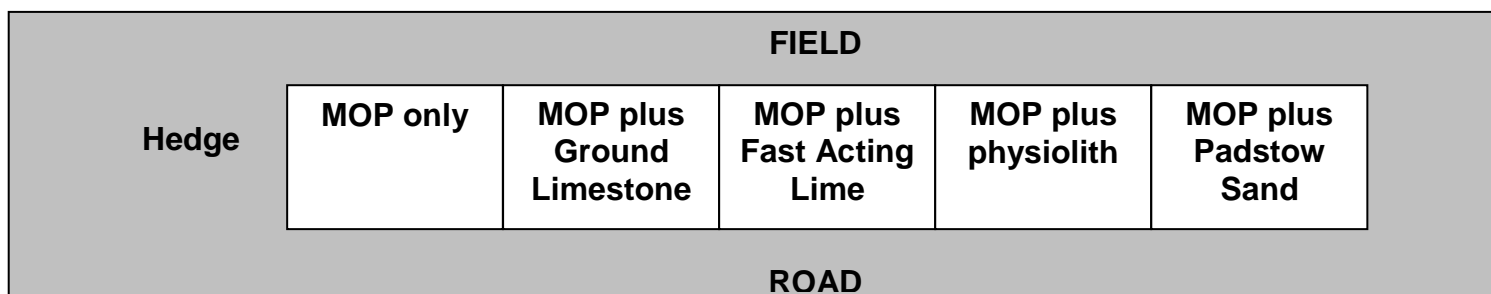
# Demo Plots - Plots were established in a long term grass field on 2<sup>nd</sup> July 2012 following a silage cut.

## Soil Results Prior to the Plots Being Set Up

Field Details		Index			mg/l (Available)		
Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
<b>RAMS FIELD</b>							
<i>Silage 1 Cut into Silage 1 Cut</i>	5.2	2	1	2	22.2	76	90

## Plot layout

Plots were laid out as in the diagram below using 4 different liming agents. Muriate of Potash was applied to all plots to supply 30kg of Potash as required for grazing grass.



## Calculations

PRODUCT	Ground Limestone	Fast Acting Lime	Physiolith	Padstow Sand
Application Rate t/ha	5.3	1.2	1.2	8.6
Application Rate t/ac	2.1	0.5	0.5	3.5
Cost per tonne	£30	£120	£191	£17
Neutralizing Value (NV)	57	97	97	35
£ per ha	£159	£144	£229	£146

## Soil results after lime applications

PRODUCT	Soil pH	P Index	K Index	Mg Index
Plots Before Application	5.4	2	0	3
MOP Only	5.5	1	1	2
Ground Limestone	6.1	2	1	2
Fast Acting Lime	6.1	2	1	3
Physiolith	6.0	2	1	3
Padstow Sand	5.8	2	0	3



European Agricultural Fund for Rural Development: Europe investing in rural areas.

**BGS Nutrient Wise Demos are part of the South West Agricultural Resource Management (SWARM) Knowledge Hub**  
[www.swarmhub.co.uk](http://www.swarmhub.co.uk), which is a SW RDA initiative, managed by  
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