GPS vs. Conventional

FARM ADVISORY SERVICE

Oatridge
7th December 2017

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Why is pH Important ?

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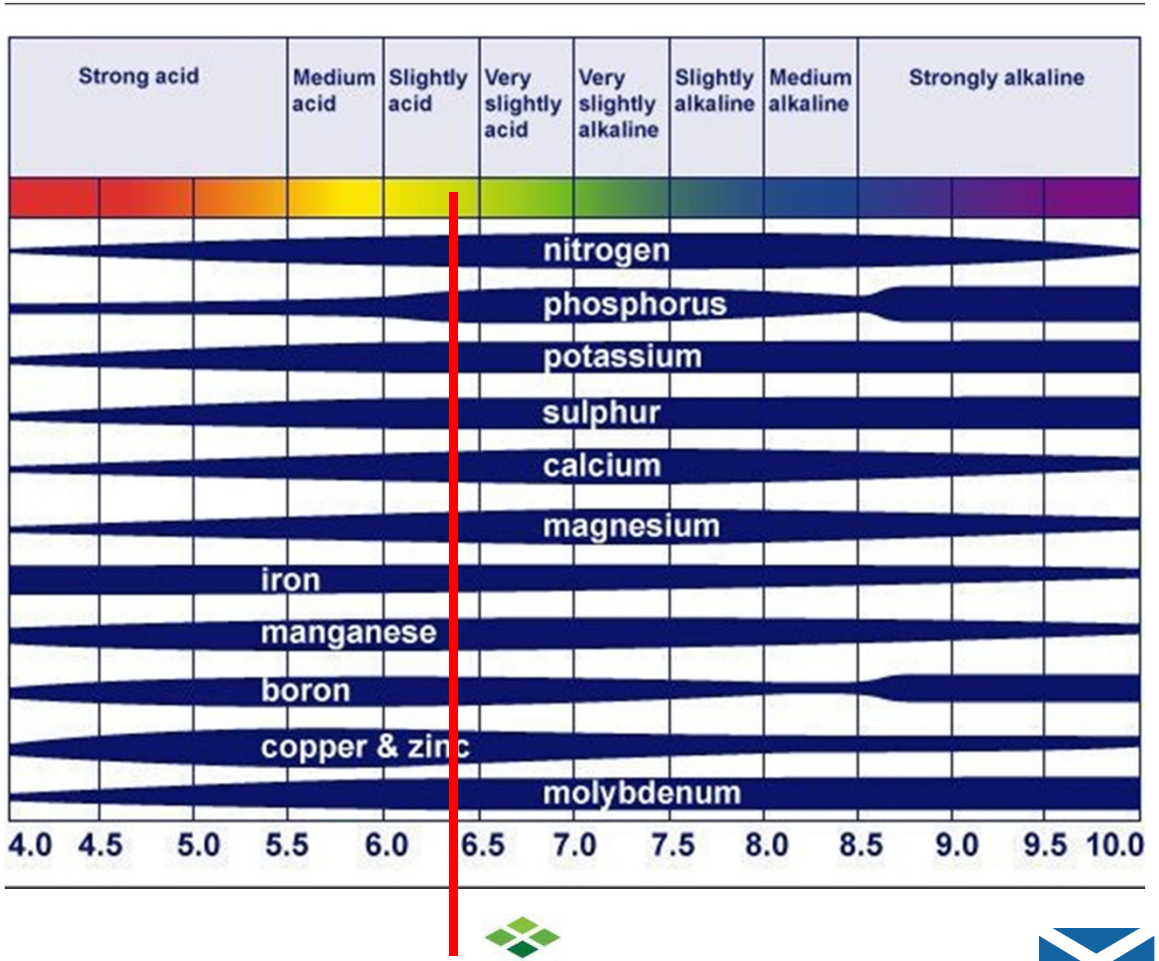

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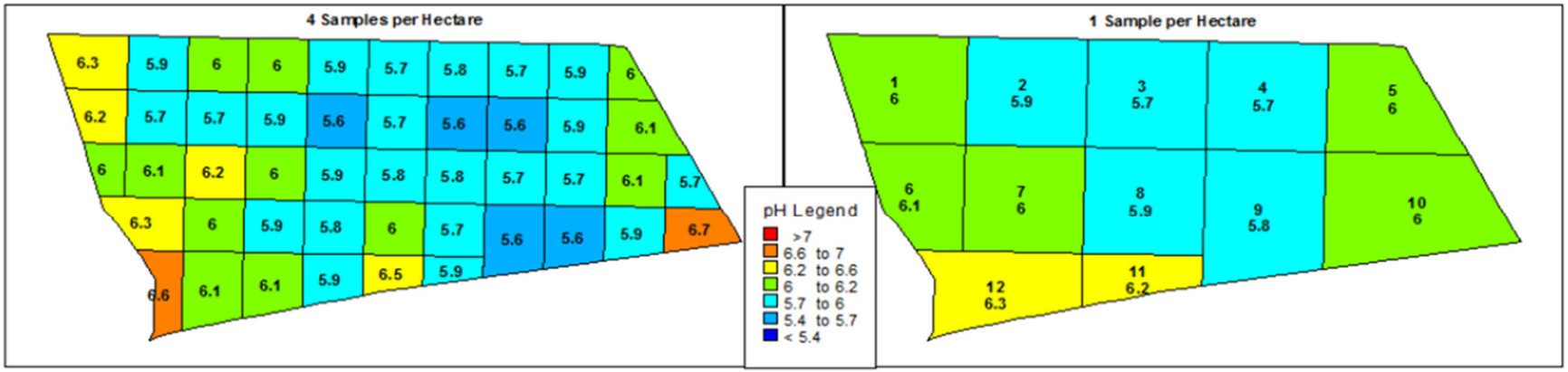
GPS makes sense….



(i.e. from ¼ ha squares to the whole field).

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But does it pay….

Field	Area (ha)	RU pH	Total Lime required Blanket (tonnes)	Total Lime Requirement GPS (tonnes)
7	3.84	5.5	27.65	28.31
10	4.06	5.6	25.58	22.27
11	3.63	5.8	16.34	11.79
15	7.71	6.1	13.88	14.61
16	6.47	6.1	11.65	7.14
19	4.54	6	12.26	12.82
24	14.28	5.6	89.96	68.65
25	3.54	5.7	19.12	17.39
26	10.99	6.4	0.00	2.48
27	6.76	6.6	0.00	0.23
28	3.98	6	10.75	6.37
31	6.98	6.1	12.56	8.97
32	10.26	6.3	0.00	9.31
33	8.69	6.9	0.00	0
34	2.69	5.6	16.95	16.8
35	4.05	5.2	40.50	39.19
Total	**102.47**		**297.18**	**266.33**

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But does it pay ….

	Conventional	GPS
Lime	297.18	266.33
£/t	25	25
£	£7425	£6658.25
	Saving	**£700**

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Farm Advisory Service, Soil Nutrient Network

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Calculating P&K requirements for Silage

- Silage Yield West Binny 2200 tonnes in Pit from 54.38ha. (mostly 2 cuts)
- Ave. DM is 20.45% so DM yield is 450 tonnes

Question:

How much Potash and Phosphate

is in the silage pit?

Potassium in Silage (K)

- K in silage analysis is 20g/kg DM (0.02kg)
- 450,000kg of silage DM x 0.02kg = 9000kg of K
- Convert to potash (K_2O) multiply by 1.21
- Equivalent to 10.89 tonnes of Potash

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How much Potash do you need to replace removal?

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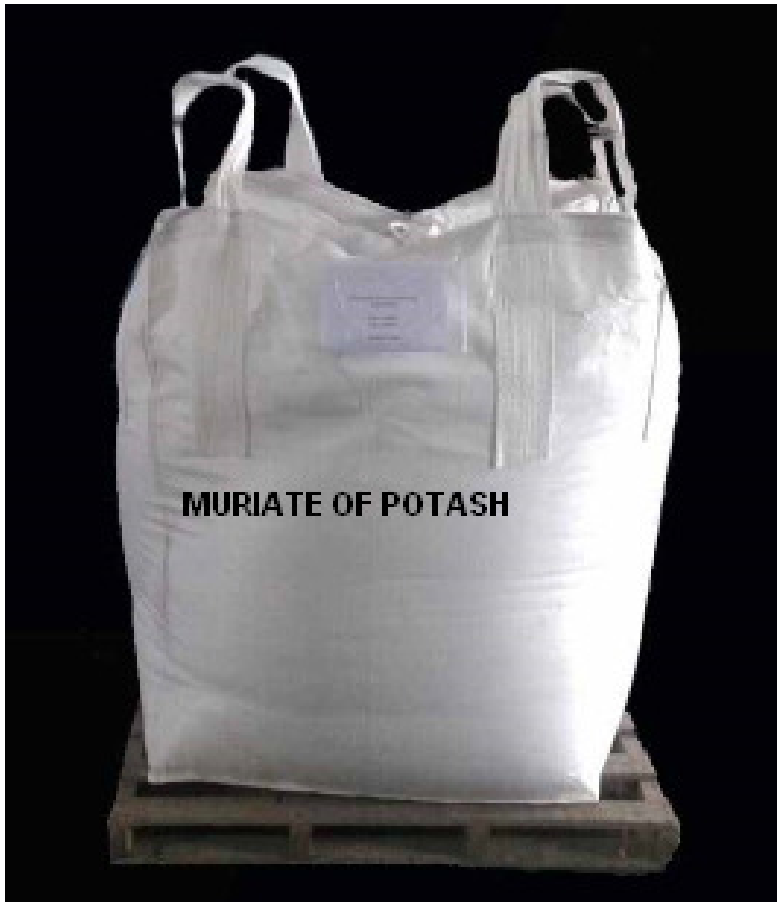
- Muriate of Potash 60% K2O
- need 18.15 tonnes of MOP (approx 30, 600kg bags)
- Slurry ave. potash is 3.2kg/m3
- FYM ave. potash is 8kg of potash per tonne



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Phosphate

- Ave. Phosphorous in silage analysis is 2.6g/kg DM = 0.0026kg
- 450000kg of DM x 0.0026kg = 1170kg
- Convert to P205 multiply by 2.29

- ~2.7 tonnes of phosphate

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How much Phosphate do you need to replace removal?

- Triple Super Phosphate 46% P2O5 so need 5.8 tonnes of TSP (9.7, 600kg bags)

- Slurry ave is 1.2kg/t (6%DM)
- FYM ave 3.2kg/t

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Summary

- Silage removes huge amounts of Potash
- Organic manures can replace potash removed
- Calculate offtakes of P&K with analysis of silage
- Feed the soil or the crop ?

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