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Certificate Code: **AR-18-EQ-101910-01**
Page Number: **Page 1 of 2**
PO reference: **86054**
Reported On: **08/06/2018**
Reported By: **Sarah Smith**
Analytical Services Manager

Certificate of Analysis

Laboratory Sample Number: **106-2018-00002979**
Sample reception date: **23/05/2018**
Your sample description: **Soil**
Your sample reference: **Wigglers**

Test Code		Analyte	Results	Units	Interpretative Result
Routine Soil					
JY0KL	†	pH	6.4		
JY0KM	†	Extractable Phosphorus	100	mg/l	5 Index
JY0KN	†	Extractable Potassium	1550	mg/l	7 Index
JY0KP	†	Extractable Magnesium	243	mg/l	4 Index
Other Analysis					
JY0KQ	‡	Conductivity	3860	µS/cm	
JY0KR	‡	Density	0.21	g/ml	
JY0KS	‡	Nitrate nitrogen	306	mg/l	

† Indicates that the analysis was subcontracted and accredited
‡ Indicates that the analysis was subcontracted and unaccredited

Opinions and interpretations within this report are outside our accreditation scope. Unless otherwise stated, all results are expressed on a sample as receved basis. This certificate of analysis shall not be reproduced except in full, without the written permission of the laboratory

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INTERPRETATION of SOIL ANALYSIS for pH, PHOSPHORUS, POTASSIUM and MAGNESIUM

pH

This is a measure of soil acidity or alkalinity. For most crops other than permanent grass, the optimum pH is 6.5 on mineral soils and 5.8 on peaty soils. For permanent grass the optima are 6.0 and 5.3 for mineral and peaty soils respectively. If the analysis reports a lower (i.e. more acid) pH than these, a recommendation will be given for the amount of lime which should be added, to raise the pH to the optimum. Liming to a pH above the optimum should be avoided, because this may induce trace element deficiencies.

Phosphorus (P), Potassium (K) and Magnesium (Mg)

The concentrations of these nutrients found in the analysis are reported as milligrams per litre of soil, (mg/l). The range of concentrations commonly encountered is large and for each nutrient, the concentrations have been classified into smaller groups, to produce nutrient **Index** values. The Indices range from 0 (deficient) to 9 (very high) and fertiliser recommendations can be given based on the nutrient Indices of a soil sample.

Nitrogen

In addition to P, K and Mg, most common crops require nitrogen (N) fertiliser. In most cases, the N requirement is determined by factors such as previous crops, use of organic manures and soil type. In some situations, nitrogen recommendations can also be produced based on specialised soil nitrogen analysis.

Fertiliser Recommendations

Different crops have different nutrient requirements and respond to fertilisers differently, so fertliser recommendations will depend on both the Soil Index and the specific crop. Yields may be reduced at nutrient levels below the target. Conversely, above the target no fertiliser may be needed, or perhaps only a maintenance application to replace nutrients removed in the crop.

In the second table an indication is given of crop fertiliser needs, ranging from low to high. Specific needs depend on factors such as soil type and previous fertilisation. A blank has been left where there is no need for a fertiliser nutrient (e.g. nitrogen on peas and field beans), or the need is very small (e.g. magnesium on cereals). **There is much variation between individual crops and the table is only provided for broad guidance.**

TARGET INDICES

	P	K	Mg
Vegetables, potatoes	3	2	2
Arable crops, grass and forage crops, fruit	2	2	2

CROP FERTILISER NEEDS (*low; **moderate; ***high)

	N	P	K	Mg
Cereals, oilseed rape, grass, (except silage)	***/**	*	**/*	
Peas and Field beans		*	*	
Potatoes/vegetables	***/**	**/*	***/**	*
Sugar beet	**/*	*	**/*	*
Fodder crops	**/*	*	**/*	
Silage	***/**	*	**	
Fruit	*	*	*	

Further Information

General guidance on Fertiliser rates can be found in the Defra (Department for Environment, Food and Rural Affairs) publication “Fertiliser Manual” (RB209) (ISBN 978-0-11-243286-9) available from TSO (www.tso.co.uk)