

METHOD STATEMENT

Determinand:

Determination of extractable phosphorus

Matrix:

Sample Type: soil samples

Principle of Method:

Phosphorus is extracted from the soil at $20 \pm 5^{\circ}\text{C}$ with a sodium bicarbonate solution at pH 8.5. Phosphate in the extract reacts with acid ammonium molybdate to form a phosphomolybdate, which is reduced with ascorbic acid. The concentration of the blue complex produced is measured spectrophotometrically at 880 nm.

Interferences:

Interferences from organic matter, leading to turbid extracts, or by highly coloured extracts are overcome by the procedures used

Performance of Method:

Range of Application:

1 - 140 mg/kg

The normal reporting limit is 5 mg/kg when a weight of soil is taken.

% MAFF P Normal reporting limit: 0.0005%

Limit of Detection and Calibration Bias:

4.0673mg/l

% MAFF P Method LOD: 0.00040673%

Recoveries of Compounds and Uncertainty of measurement:

	<i>Low Std</i>	<i>High Std</i>	<i>CRM</i>	<i>Sand</i>	<i>Clay</i>	<i>Loam</i>
<i>ug P</i>	40.521	117.077	81.713	39.936	9.983	11.767
<i>SD ug P</i>	4.28	3.91	7.11	5.21	8.40	9.07
<i>% Recovery</i>	101.30	97.56	90.79	-----	-----	-----

References:

The Analysis of Agricultural Materials, Reference Book 427, 3rd edition. Ministry of Agriculture, Fisheries and Food. HMSO. ISBN 0 11 242762 6. Method 59.

Fertiliser Recommendations, Reference Book 209. Ministry of Agriculture, Fisheries and Food. HMSO. ISBN 0 11 242813 4. Appendix 1.

