



Soil Nitrate by KCl Extraction

EQUIPMENT

1. Balance
2. Shaker
3. FIALyzer-1000

REAGENT

1. Sulfanilamide: $C_6H_8N_2O_2S$
2. N-1-naphthylenediamine
3. dihydrochloride: $C_{12}H_{14}N_2 \cdot 2HCl$
4. Potassium Chloride: KCl
5. Ammonium Chloride: NH_4Cl
6. Ammonium Hydroxide: NH_4OH
7. Phosphoric Acid: H_3PO_4
8. Disodium EDTA: $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
9. Brij-35, 30% W/V: $C_{12}H_{25}[C_2H_4O]_{23}OH$

PROCEDURE

1. Weigh and transfer soil samples into 40 mL bottles using 5 g scoop
2. Add 20 mL 0.1N KCl solution
3. Shake on high speed (~260 oscillations per minute) for 15 minutes
4. Filter through Whatman #1 paper
5. Analyze extract according to FIALyzer-1000 instrument procedures.

REFERENCE

Dorich, R. A. and D. W. Nelson. 1984. Evaluation of Manual Cadmium Reduction Methods for Determination of Nitrate in Potassium Chloride Extracts. *SOIL Sci. Soc. Am. J.* 48:72-75.

EPA Method 353.2, Revision 2.0: Determination of Nitrate/Nitrite-N by Automated Colorimetry. August 1993 2001. EPA-353-R-02-1.