

**B-130 Use of ion exchange resins for the determination of exchangeable magnesium of the soils of Sri Lanka**

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The suitability of mixed resins for the assessment of available phosphorus and exchangeable potassium in a wide range of Sri Lankan agricultural soils has been reported. The present study was carried out to evaluate the suitability of mixed resins for the assessment of exchangeable magnesium in a few selected soils of Sri Lanka.

Agricultural soils falling into 17 different soil series were sampled from the low mid country of Sri Lanka. A volume of 2 l of each soil was filled into pots and *Peuraria phaseoloides* was grown on each pot with 1 g of MgSO<sub>4</sub> per pot and without magnesium but with application of all other nutrients as a basal treatment. All the treatments were duplicated. The relative yields of dry matter were calculated for each soil series.

The soils were analysed for exchangeable magnesium by the mixed ion exchange method and the 1 M ammonium acetate (pH 7.0) method. The relationship between the relative yield of each soil series and the extractable magnesium by each method was tested by the Cate and Nelson procedure.

Soil magnesium extractable by 1M ammonium acetate showed a highly significant linear correlation (0.913;  $p < 0.001$ ) with that by mixed ion exchange resins. The relative yields of *Peuraria phaseoloides* and extractable magnesium by both methods fitted well the Cate and Nelson graphical model. The relationships showed that the threshold level of exchangeable Mg of soils were 15 mg/kg for mixed resins and 7.4 mg/kg for 1M ammonium acetate extractions. Also the mixed ion exchange resins extracted a greater quantity of Mg than the 1M ammonium acetate. The overall results showed that mixed ion exchange resins could be successfully used for the determination of exchangeable magnesium of a wide range of Sri Lankan agricultural soils.