

ppm K. This explains the higher critical limits obtained in the case of heavy alluvial black soils compared to light soils, though the yield of K from non-exchangeable sources was high in the heavy alluvial black soils.

### P AVAILABILITY IN SOILS

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## Phosphorus in tropical soils: assessing deficiency levels and phosphorus requirements

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At the Edmonton Congress, conclusions for IMPHOS' study were presented on 168 soil samples. The complete study dealing with 500 samples can be summarized as follows:

Pot trials are a good approach to phosphorus deficiency.

P deficiency is often quite serious since 65 per cent of the soil samples under study were seriously, or clearly, deficient.

Proposals have been put forward for the various FAO/UNESCO pedological groups with respect to the best assessment methods and P-deficiency thresholds below which response to P applications is great.

A simple method appears among these proposals for assessing P deficiency: 48-hour P desorption. Assessment of the extent of deficiency in the soils under study was as precise as with the L value.

Experimental results in fields allow for defining five groups of soils with clearly distinct responses to P and for selecting simple criteria for classifying any soil within one of the five groups.

The study of P desorption in soils previously enriched with increasing amounts of P led to graph proposal for speedy calculations of the P levels required for correcting deficiency.

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## A soil phosphorus atlas for Rwanda

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Phosphate sorption curves, based on surface (0-15 cm) and subsurface (30-45 cm) soil materials from 121 sites in Rwanda, East Africa, were used to determine quantities of P required to establish two levels of P in representative soils. The two levels of P were 0.2  $\mu\text{g/ml}$ , used as a standard concentration for comparing

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