

The charge properties of highly weathered tropical soils

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Phyllosilicates are the major minerals of soils. These minerals change to oxides or hydroxides on weathering in tropical environments. Charges are developed in the phyllosilicates via isomorphic substitution of Si by Al; these termed negative permanent charges. In highly weathered tropical soils, oxides or hydroxides are predominant. The minerals become positively charged when the soil pH is lowered. In such soils, negative charges develop when soil pH increases. Hence, it would be possible to change charges in soils by agronomic manipulation. In soils dominated by oxides, positive charges in the B-horizon can be higher than negative charges.
