

## **Abstract**

Phosphate rocks (PR) which have high reactivity may be effective as a direct application of fertilizer especially in highly weathered acid soils. The agronomic effectiveness of such PR, Minjingu rock phosphate (MRP) was compared with that of highly soluble phosphate, triple superphosphate (TSP), in pot studies with seed bean (*P. vulgaris* L.) in a green house at the field station of faculty of Agriculture, University of Nairobi, Kenya. MRP final y ground with 30 Grade % P and TSP with 99.0 Grade % P fertiliser at rates 0, 30, 45 and 60 mg P per pot were applied on 2kg soil per pot. The soil used in the study was an acid humic andosol from fields with moribund tea bushes, tea bushes planted in 1958 and 1979 and newly cleared forest in Kagaa, Kenya. Shoot and root dry matter yields, dry seed yield responses and their responses estimates were determined and showed positive significance in most cases when TSP fertiliser was applied on the soils except that from moribund tea field. The relative agronomic effectiveness (efficiency) of MRP on biomass and also seed yield of beans was found to be significantly inferior to TSP in most of the soils except that from moribund tea field where both sources were found to be effective. This study confirms that in spite of its high reactivity, MRP is still agronomically ineffective as nutrient source of P for growing *P. vulgaris* in acid Soils