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## Influence of phosphocompost application on phosphorus availability and uptake by maize grown in red soil of I shigaki Island, Japan

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### ABSTRACT

Phospho compost application is important with respect to soil fertility and plant nutrition. Therefore, the objective was to evaluate the influence of phospho compost application on P availability and uptake by maize in red soil. The phosphorus applied in the form of phospho compost, as compare to rock phosphate and super phosphate at a rate of 50 and 100 mg P<sub>2</sub>O<sub>5</sub> Kg<sup>-1</sup> soil. The application was done as spot and mix application. Results indicate that, spot application of 100 mg P<sub>2</sub>O<sub>5</sub> kg<sup>-1</sup> soil as phospho compost (b) registered significantly higher P uptake (2.1 and 5.31 mg· pot<sup>-1</sup>) and available soil P (19.1 and 21.0 mg· kg<sup>-1</sup>) as compare to Rock Phosphate alone (0.60 and 0.97 mg· pot<sup>-1</sup>) and (5.6 and 6.0 mg· kg<sup>-1</sup>) at 30 and 60 day after sowing, respectively. The probable chelating effect from phospho composting increased the phosphorus use efficiency and resulted into higher relative agronomic efficiency in phospho compost (b) spot application (40%) over mix application (15%). The dry matter yield had positive and significant correlation with available P in soil and P uptake by maize plants at 30 and 60 day after sowing. Results concluded that phospho compost enriched with FYM was most effective in increasing phosphorus availability in red soil and increasing dry matter yield of maize plants.

### KEYWORDS

Phosphocompost; Rock Phosphate; Available P; Maize; Red Soil

### Cite this paper

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