



RESEARCH ARTICLE :

Effect of dose and time of application of phosphorus on changes in phosphorus uptake pattern and yield of rice grown on P accumulated soil

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SUMMARY : A survey was carried out during May, 2015 from 50 rice growing farmers to identify the farmer's practice of dose and time of P application. Based on the survey data, the average of 50 farmers P fertilizer dose ($85 \text{ kg P}_2\text{O}_5 \text{ ha}^{-1}$) was fixed as 100 % farmer's dose and majority of the farmers practice *i.e.* two equal splits at basal and at top dressing at early tillering stage (14 to 20 DAT) was decided as farmer practice of splits for conducting field experiment on rice in P accumulated soil. The field experiment was consisting of twelve treatment combinations with six levels of phosphorus (100, 75 and 50 % farmers dose and 100, 75 and 50 % RDP) and its time of application (Farmer practice of split application and basal application). As part of this investigation, The crop has given good response to application of 100 % farmers dose of P ($85 \text{ kg P}_2\text{O}_5 \text{ ha}^{-1}$) but at the same time which was found to be on par with the application of 100 % RDP ($60 \text{ kg P}_2\text{O}_5 \text{ ha}^{-1}$), 75 % farmers dose ($64 \text{ kg P}_2\text{O}_5 \text{ ha}^{-1}$) and 75 % RDP ($45 \text{ kg P}_2\text{O}_5 \text{ ha}^{-1}$). This can be inferred as saving of P fertilizer to rice from current recommended dose and farmer's dose in soils having higher initial available P. With respect to time of P application, P uptake by the grain was significantly higher in split application than the treatment receiving basal P, although this had no significant influence on the increase in grain yield of rice.

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