



# Various Approaches for Nutrient Management in Rice (*Oryza sativa* L.)

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## ABSTRACT

Rice is the most important food crop, providing one in three people on earth with a daily diet. The production of rice in India is a significant food safety factor. Rice has been very important for successful nutrient management since along with high levels of rice production. Blanket usage of the fertiliser contributes to over fertiliser or to an insufficient nutrient balance for their soils, as well as adverse environmental effects such as nutrient mining or surface and groundwater contamination due to variable indigenous nutrient supply in the different areas. Identification of proper nutrient management practise is the foremost need to improve the production of rice and increase farm profitability in case of rice farmers. The review shows different approaches of nutrient management for production sustainability of rice.

**Keywords:** Rice, nutrient mining, nutrient management, production sustainability

Rice is the most important food crop, providing one in three people on earth with a daily diet. More than two billion people in Asia alone get from rice and its derivatives 60 to 70% of their energy consumption. West Bengal, Andhra Pradesh, Odisha, Jharkhand and Tamil Nadu are the largest rice-growing regions. The production of rice in India is a significant food safety factor. However, the sustainability of the existing production systems is not very well known, especially systems under minimum practise with triple cropping. The predominant systems in India include rice-based cropping systems. After the Green Revolution, the use of fertilisers is one of the main factors to increase rice production continuously. Rice has been very important for successful nutrient management since along with high levels of rice production. Blanket usage of the fertiliser contributes to over fertiliser or to an insufficient nutrient balance for their soils, as well

as to adverse environmental effects such as nutrient mining or surface and groundwater contamination due to variable indigenous nutrient supply in the different areas (Adhikari *et al.* 1999). In addition, the efficiency of fertiliser usage is also lower and output is eventually reduced. The efficiency of fertilisers with nitrogen in Asia is only 20-30 per cent, and in the rest of the world only 45 per cent and 20-30 per cent with potassium- and phosphorous usage efficiencies. A proper nutrient management will achieve 75-80 percent of potential yield (Witt *et al.* 1999). Management of nutrients helps to lower fertiliser losses and to increase production and rice

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