



RESEARCH PAPER

Productivity and economics of potato grown with organics fertilization in comparison to inorganic fertilizers

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Abstract : A field experiment was conducted on potato (*Solanum tuberosum* L.) at Vegetable Research Station Kalyanpur, Kanpur (U.P.) during 2010-11, 2011-12 and 2012-13 in sandy loam soil. Six different treatments of organic fertilization were tested against the control treatment of recommended inorganic NPK fertilizers. Organic treatments consisted crop residue incorporation, its management, biofertilizers (*Azotobacter* and phosphobacteria), vermicompost @ 5 t ha⁻¹ or FYM @ 20 t ha⁻¹ and recommended N based FYM application alone. Based on pooled data over years, treatment of recommended NPK fertilizers (180 kg N + 80 kg P₂O₅ + 100 kg K₂O ha⁻¹) produced highest potato tuber yield of 35.04 t ha⁻¹ and earned maximum of Rs. 125177 ha⁻¹ net return. It was followed by N based FYM application with 32.66 t ha⁻¹ yield and Rs.109814 ha⁻¹ net return. The treatment of crop residue management + biofertilizers + vermicompost @ 5 t ha⁻¹ also produced considerable potato yield of 30.26 t ha⁻¹ with Rs. 100543 ha⁻¹ net return. Therefore, these two organics practices may serve as alternative of NPK inorganic fertilizers without much reduction in yield and net return and fear of pollution hazards.

Key Words : Potato, Organics, Biofertilizers, Inorganic fertilizers, Production, Economics

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