



RESEARCH PAPER

Comparison of organic and inorganic sources of nutrients on the performance of buckwheat (*Fagopyrum esculentum* Moench)

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Abstract : The experiment was conducted during pre-Kharif season of 2012 and 2013 at the Instructional Farm of Uttar Banga Krishi Viswavidyalaya, Pundibari, Cooch Behar on sandy loam soils under sub-tropical par-humid to tropical humid climate of *terai* region of West Bengal, to compare the performance of buckwheat (*Fagopyrum esculentum* Moench) under different sources of organic and inorganic nutrients. The field experiment was laid out in RBD (Randomized Block Design) with fourteen treatments and three replications. Treatments comprised of T₁ = Control, T₂ = RDF (40:20:20), T₃ = Vermicompost @ 2.5 t ha⁻¹, T₄ = Vermicompost @ 5 t ha⁻¹, T₅ = Mustard cake @ 2.5 t ha⁻¹, T₆ = Mustard cake @ 5 t ha⁻¹, T₇ = Poultry manure @ 2.5 t ha⁻¹, T₈ = Poultry manure @ 5 t ha⁻¹, T₉ = F.Y.M @ 8 t ha⁻¹, T₁₀ = RDF + FYM @ 4 t ha⁻¹, T₁₁ = Vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 2.5 t ha⁻¹, T₁₂ = Vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 5 t ha⁻¹, T₁₃ = Vermicompost @ 2.5 t ha⁻¹ + F.Y.M @ 4 t ha⁻¹ and T₁₄ = Vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 2.5 t ha⁻¹ + poultry manure @ 2.5 t ha⁻¹ + F.Y.M @ 4 t ha⁻¹. Poled data revealed that seed yield of buck wheat were increased by 5.2 and 12.8 quintal ha⁻¹ through combine application of vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 2.5 t ha⁻¹ + poultry manure @ 2.5 t ha⁻¹ + F.Y.M @ 4 t ha⁻¹ over 100 % RDF and control. Combined application of vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 2.5 t ha⁻¹ + poultry manure @ 2.5 t ha⁻¹ + F.Y.M @ 4 t ha⁻¹ (T₁₄) recorded significantly higher percentage of starch (72.1 and 72.1) and protein (14.2 and 14.4) during 2012 and 2013, respectively which was followed by combined application of vermicompost @ 2.5 t ha⁻¹ + mustard cake @ 5 t ha⁻¹ (T₁₂) and poultry manure @ 5 t ha⁻¹ (T₈). The highest benefit: cost (2.96) was noticed in T₈ (Poultry manure @ 5 t ha⁻¹) followed by T₂ (2.83).

Key Words : Buckwheat, Vermicompost, Mustard cake, Poultry manure, FYM, Protein

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