



## RESEARCH PAPER

# Effect of magnesium and organic manure on growth, yield and nutrient uptake of olitorius jute under rainfed condition

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**Abstract :** A field experiment was carried out during 2019–20 to 2020–21, at Kendrapara, to study the effect of nutrient management with magnesium and farm yard manure on yield, nutrient uptake and economics of tossa jute (*Corchorus olitorius* L.) under rainfed situation. Application of 80 kg N, 40 kg P<sub>2</sub>O<sub>5</sub> and 40 kg K<sub>2</sub>O/ha (recommended dose for tossa jute) along with MgSO<sub>4</sub>·7H<sub>2</sub>O @ 10 kg/ha + FYM (@5t/ha) to jute crop recorded the highest fibre yield (3.24 tonnes/ha), This resulted an fibre yield increase of 36.6% over the recommended dose of fertilizers . Application of MgSO<sub>4</sub>·7H<sub>2</sub>O, helped to increase the fibre yield of 0.2,2.1 and 1.6q/ha over the recommended fertilizer dose, indicating better response of jute plants to secondary nutrients.Nutrient uptake (N,P,K, Ca, Mg and S) of jute increased owing to combined application NPK + 10 kg MgSO<sub>4</sub>,when preceded with FYM@5t/ha.The maximum net returns (Rs. 22,628/ha) and the highest benefit : cost ratio (1.71) were recorded with the recommended NPK along with MgSO<sub>4</sub> and FYM under rainfed condition.

**Key Words :** Fertilizer, Magnesium sulphate, Nutrient uptake, Nutrient management, fibre yield, Jute

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