

EFFECT OF NUTRIENT MANAGEMENT ON GROWTH, YIELD, UPTAKE OF NUTRIENTS AND RESIDUAL SOIL FERTILITY IN *KHARIF* SESAME (*SESAMUM INDICUM* L.) UNDER ORGANIC FARMING

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Abstract: A field experiment was carried out during *kharif* season of 2019 at Agronomy Instructional Farm, C. P. College of Agriculture, S. D. Agricultural University, Sardarkrushinagar, Gujarat to study the effect of nutrient management on growth, yield, uptake of nutrients and residual soil fertility in *kharif* sesame (*Sesamum indicum* L.) under organic farming. Growth attributes such as leaf area per plant, leaf area index, dry matter accumulation per plant; yield attributes viz; number of capsules per plant, seed weight per capsule and test weight as well as seed yield and stalk yield were recorded significantly higher with application of FYM @ 2.5 t/ha + Castor cake @ 250 kg/ha + *Panchagavya* spray @ 4% at 30, 50 and 70 DAS being at par with application of 2.5 t FYM/ha + 250 kg Castor cake/ha along with either 4 % *Panchagavya* foliar spray either one spray at 30 DAS or two sprays at 30 and 50 DAS. It also significantly improved the oil yield besides, improving quality of seed (protein content) as well as total uptake of N and P₂O₅ by sesame crop. Maximum net returns and benefit cost ratio were obtained with application of 2.5 t FYM/ha + 250 kg Castor cake/ha along with 4 % *Panchagavya* two sprays at 30 and 50 DAS under organic farming. Similarly, significantly higher organic carbon content in soil after harvest of sesame was found in this treatment as compared to initial and use of single source of organic manure.

Keywords: Farm yard manure, Castor cake, *Panchagavya*, Sesame, *Kharif*

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