



RESEARCH PAPER

Yield attributes and nutrient uptake of organic safflower (*Carthamus tinctorius* L.) in drylands of Maharashtra

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Abstract : A field experiment on 'organic farming' in safflower was conducted at Dry Farming Research Station (DFRS), Solapur for five years (2009-10 to 2013-14) with the objective to explore the possibilities of substituting chemical inputs through organic source and to evaluate its effect on nutrient uptake. Well decomposed farm yard manure, vermicompost, neem seed cake, *Azotobacter*, *Trichoderma* and neem seed kernel extract were used as organic inputs. While, urea, SSP, dimethoate and arbendazim were used as synthetic sources of inputs. Significantly higher seed yield (1189 kg ha^{-1}) of safflower was recorded under RDF (50:25:0 NPK kg/ha + chemical control). Treatment with application of FYM @ 5ton/ha + BF+ biopesticide (Neem cake @ 200kg/ha, *Trichoderma* seed treatment @ 5 g / kg seed + spray of NSKE 5%) and treatment FYM alone @ 6.5 ton/ha were at par with RDF (50:25:0) NPK kg/ha + chemical control. Numerically higher values of test weight (5.87 g) were recorded under (FYM @ 2.5 ton/ha + biofertilizer) and T_8 (FYM (equal to 50 kg N) = 6.5 ton/ha). Higher volume weight (722 g lit^{-1}) was recorded under the treatment T_3 . Significantly higher uptake of nitrogen was recorded under T_9 , i.e. RDF (50:25:0) NPK kg/ha + chemical control and it was at par with T_3 , i.e. FYM @ 5ton/ha + BF + biopesticide in respect of P_2O_5 and K_2O .

Key Words : Biofertilizer, LAI, Safflower, NSKE, TDM, Uptake

View Point Article : Khadtare, S.V., Shinde, S.K. and Toradmal, V.M. (2016). Yield attributes and nutrient uptake of organic safflower (*Carthamus tinctorius* L.) in drylands of Maharashtra. *Internat. J. agric. Sci.*, **12** (2) : 314-318, DOI:10.15740/HAS/IJAS/12.2/314-318.

Article History : Received : 01.03.2016; Revised : 20.03.2016; Accepted : 17.05.2016