

Effect of Micronutrients on Productivity of Safflower (*Carthamus tinctorius* L.) Under Rainfed Conditions

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ABSTRACT

A field experiment was conducted under rainfed conditions in vertisols to study the effect of micronutrients (Fe and Zn) on the productivity of safflower during *rabi* 2004-05 and 2005-06 at Agriculture Research Station, Annigeri, Karnataka. The experiment was laid out in randomized block design with three replications and eleven treatment combinations (Three levels of ZnSO₄ @ 10, 20, 30 and 40 kg ha⁻¹ along with RDF, three levels of FeSO₄ @ 10, 20 and 30 kg ha⁻¹ along with RDF three levels of elemental sulphur @ 1.7, 3.4 and 5.1 kg ha⁻¹ along with RDF, RDF+FYM @ 5t ha⁻¹ and RDF alone 40-40-20 kg NPK ha⁻¹). Safflower responded significantly to the iron and zinc nutrients. The safflower seed yield was significantly higher (2478 kg ha⁻¹) with application of ZnSO₄ @ 20 kg ha⁻¹ along with RDF which was 7.1 and 19.2 % higher over RDF+FYM and RDF alone, respectively. The same treatment recorded significantly higher oil yield (709 kg ha⁻¹), gross returns (Rs.32,222 ha⁻¹), net returns (Rs. 25,340 ha⁻¹) and B:C ratio (4.68). The maximum additional yield (297 kg ha⁻¹) was obtained with same treatment compared to RDF+ 3.4 kg ha⁻¹ elemental sulphur.

Key words : Safflower, Micronutrients, Productivity, Oil yield, Vertisols