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EFFECT OF DIFFERENT NUTRIENT SOURCES ON GROWTH AND YIELD OF MUSTARD (*BRASSICA JUNCEA* L.)

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A field experiment entitled "Effect of different nutrient sources on growth and yield of mustard (*Brassica juncea* L.)" was conducted during *rabi* 2020-2021 at Experimental Farm, Agronomy, Oilseeds Research Station, Latur. The objectives of the present study was to study the effect of different nutrient sources on growth and yield of mustard and to study the economics of different treatments.

The soil was clayey in texture, low in available nitrogen, very low in available phosphorus, very high in available potassium and alkaline in reaction. The experiment was laid out in Randomized Block Design with 8 treatments each with three replications. The treatments were **T_1** – Control, **T_2** - RDF + FYM @ 5 t ha^{-1}, **T_3** - RDF + Vermicompost @ 2.5 t ha^{-1}, **T_4** - RDF + Poultry manure @ 5 t ha^{-1}, **T_5**- RDF + Elemental sulphur @ 20 kg ha^{-1}, **T_6** - RDF + $ZnSO_4$ @ 20 kg ha^{-1}, **T_7**- RDF + $FeSO_4$ @ 20 kg ha^{-1} and **T_8** - RDF + Gypsum @ 500 kg ha^{-1}. The gross and net plot size was 5.4 m x 4.5 m and 4.5 m x 3.9 m, respectively. Sowing was done on 12th November, 2020. The recommended dose of fertilizer was applied as per treatments through Urea, DAP and MOP. The crop was harvested on 23rd February, 2021.

The results of the experiment indicated that combined application of RDF + Vermicompost @ 2.5 t ha^{-1} (T_3) observed significantly maximum growth parameters *viz*., plant height, number of branches, number of leaves, leaf area and dry matter and yield and yield attributes *viz.*, number of silique $plant^{-1}$, length of silique (cm), number of seeds $silique^{-1}$, seed yield $plant^{-1}$ (g), straw yield $plant^{-1}$ (g), test weight (g), seed yield (kg ha^{-1}), straw yield (kg ha^{-1}) and biological yield (kg ha^{-1}), but statistically remained at par with RDF + FYM @ 5 t ha^{-1} (T_2) and RDF + Gypsum @ 500 kg ha^{-1} (T_8). The application of RDF + Vermicompost @ 2.5 t ha^{-1} (T_3) recorded the significantly highest oil content. The application of RDF + Vermicompost @ 2.5 t ha^{-1} (T_3) obtained maximum net returns. Highest B:C ratio was obtained with the application of RDF + Vermicompost @ 2.5 t ha^{-1} (T_3).