

Effect of integrated nutrient management on seed yield contributing parameters of okra

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ABSTRACT

The investigation was carried out to find out the effect of integrated nutrient management on growth and seed yield of okra, using Yellow Vein Mosaic Virus resistant variety Varsha Uphar, under sub-tropical conditions of Jammu at Vegetable Experimental Farm, FOA, SKUAST-Jammu, Main Campus Chatha during rainy season. The experiment was laid out in randomized block design (Factorial) with three biofertilizers either alone or in combination with three levels of nitrogen, phosphorous and potash were uniformly applied to all the treatments. Application of 75% recommended dose of fertilizer (NP) along with phosphorus solubilizing bacteria as soil application @ 2 kg/ha proved to be most profitable and remunerative for seed production of okra crop under sub-tropical conditions of Jammu region (J&K).

Key words : INM, Seed yield, Okra

Ookra [*Abelmoschus esculentus* (L.) Moench] known as bhindi or lady's finger belonging to family Malvaceae, is one of the most important warm season fruit vegetable. In India, it is cultivated over an area of about 3.6 lakh ha with an annual production of about 33.8 lakh tonnes Dhankar and Dhankar (2001). It is also foreign exchange earner vegetable and about 60 per cent of total production is being exported annually (Roy, 1989). In J&K okra occupies an important place among vegetable crops and is cultivated in different parts of Jammu division during spring, summer and rainy season, it is one of the most important tender green delicious fruit in the tropical parts of the world. The increased cost of fertilizers and over increasing demand of nutrients for vegetables have emphasized the need for explanation of alternative source in general and biological nitrogen in particular. The biofertilizers are known to influence the total soil microbial population and soil enzyme activity which directly reflects on soil fertility index and it is potential to increase productivity per unit area by using quality seeds as it is most important factor on which ultimate yield of crop depends. To obtain maximum quality seed yield in okra proper growth of plant and its fruit is desired.

MATERIALS AND METHODS

The experiment was laid out in a randomized block design (factorial) under sub-tropical conditions of Jammu at Experimental Farm, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and

Technology, Main Campus Chatha, during 2005-2006. Three levels of nitrogen and phosphorus in combination with three different biofertilizers *i.e.* *Azotobacter*, *Azospirillum* and PSB @ 2kg/ha were applied as a soil treatment the amount of biofertilizers was mixed with 100 kg of well rotten FYM so as to make it available on hectare basis. There were 12 treatment combinations which were replicated thrice altogether with 36 plots. The size of the plot was kept at 2.80 x 1.40 m² with plant spacing of 45 x 30 cm. The Yellow Vein Mosaic Virus (YVMV) resistant variety Varsha Uphar was used in the experiment. The data recorded were tabulated and analyzed statistically in RBD factorial design as per the procedure of Gomez and Gomez (1984). Treatment details as given below :

Fertilizer combinations:

F₁ – 50% recommended dose of nitrogen and phosphorus

F₂ – 75% recommended dose of nitrogen and phosphorus

F₃ – 100% recommended dose of nitrogen and phosphorus

(Recommended dose of fertilizers N: P 60:30 kg/ha potassium @30 kg/ha was applied uniformly to all the treatments)

Biofertilizers :

B₀ – No biofertilizers applied