



RESEARCH PAPER

Studies the effect of spacing and fertilizer levels on growth and bulb yield in *Polianthes tuberosa* at field experiment in Tumkur district, Karnataka

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Abstract : A field experiment was conducted to find out the effects of different levels of plant spacing and fertilizer dose on growth and bulb yield in tuberose (*Polianthes tuberosa* L.). The experiment consisted of twelve treatment combinations, comprising of three different plant spacing (S_1 - 45x30 cm, S_2 - 30 x 30 cm and S_3 - 30 x 15 cm), four levels of fertilizers doses such as F_0 - Only FYM (25t/ha), F_1 - 200:200:200 kg NPK/ha.+ FYM (25t/ha), F_2 - 250:250:250 kg NPK/ha + FYM (25t/ha) and F_3 - 300:300:300 kg NPK/ha + FYM (25t/ha) with four replications and Factorial in a Randomized Complete Block Design (RCBD). The result of field experiments revealed that the significant difference on growth and bulb parameters as affected by different plant spacing and fertilizers levels. The plant spacing of 30 x 30 cm with fertilizers levels of 250:250:250 kg NPK/ha+ FYM (25t/ha) were found to be optimum for better growth and recorded significant maximum plant height (55.26cm), number of leaves per plant (115.74), number of side shoots per plant (22.64) and early sprouting of bulbs (10.85days) as compared to control (45x30 cm spacing with application of FYM 25 t/ha only) in interaction. Whereas, bulb parameters recorded significant increase in size of mother bulb (4.97cm), size of daughter bulbs (4.19cm), numbers of bulbs per plant (18.01), number of bulblets per plant (15.02) and clump weight (515.15 g) at 45x30cm spacing with fertilizer level 250:250:250 kg NPK/ha + FYM (25 t/ha) as compared to control. Cultivation of tuberose at 45x30 cm plant spacing with the application of fertilizer dosage at 250:250:250 kg NPK/ha + FYM (25 t/ha) can be recommended to obtain superior quality bulbs and bulblets.

Key Words : Bulbs, Bulblets, Clump weight, *Polianthes tuberosa*, Spacing, Sprouting

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