

GROWTH AND YIELD ATTRIBUTE OF OKRA (ABELMOSCHUS ESCULENTUS L.) UNDER THE APPLICATION OF BIO AND CHEMICAL FERTILIZERS EITHER ALONE OR IN COMBINATION

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ABSTRACT

The effect of Bio and Organic fertilizers on growth and yield of Okra (Abelmoschus esculentus L.) was evaluated during late zaid season to early kharif season in the year 2015 at Patanjali Gramudyog Nyas (Haridwar district) Uttarakhand, India. Two type of seeds variety (Open pollinated and Hybrid) were taken for this study. The field experiment was laid out in Randomized Block Design (RBD) with four treatments including one control having three replications each. The treatment T1 received 100 % Chemical fertilizer @ of 75 kg/acre, in T2 and T3 the Chemical fertilizers was gradually replaced by Biofertilizers i.e. 30% in T2 and 50% in T3, whereas T4 received 100% Biofertilizers @ 100kg/acre. Different morphological parameters like length, branches/number, diameter, fresh weight, dry weight (all for both shoot and root), leaf surface area and fruit yield were observed at 35 DAS and 150 DAS. The application of 100% Biofertilizers dose was significantly beneficial in terms of fruit yield for both varieties (66.16±3.81 quintal/acre in hybrid and 52.02±4.73 quintal/acre in OP). Also the fresh and dry root weight was significantly higher in plant which received 100% Biofertilizers. Other parameters were found non-significant among all treatments. Shoot length and shoot branches were recorded maximum in OP plant which received T4 but it was equally highest for both T1 and T3 (shoot length) treated hybrid plant. Shoot diameter was found maximum for treatment T1 in case of OP variety but in case of hybrid it was recorded maximum and equal for both T1 & T4. Shoot fresh and dry weight was observed highest in T1 treated plant for both the varieties. Root length was found highest in T3 treated plant in case of hybrid variety but for To in OP variety. Root number was recorded highest in T1 treated plant for hybrid variety but T2 for OP variety. The overall finding revealed that most of the morphological traits and fruit yield were best in Biofertilizers treated plant.

KEYWORDS: Okra, Biofertilizers, Chemical Fertilizer, Open Pollinated, Hybrid, Vegetative Growth, Fruit Yield

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