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RESEARCH PAPER

Effect of organic manures, biofertilizers and micronutrients on growth, yield and quality of onion (*Allium cepa* L.)

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Abstract : A field experiment was conducted during the *Rabi* season to find out the effect of organic manures, biofertilizers and micronutrients on growth, yield and quality of onion cv. NHRDF Red - 2. There were 13 treatments *viz.*, T_0 (Recommended dose of fertilizers), T_1 Poultry manure, T_2 vermicompost, T_3 *Azotobacter*, T_4 VAM, T_5 *Azotobacter* + RDF (50%) + zinc, T_6 *Azotobacter* + RDF(75%) + zinc, T_7 VAM + RDF(50%) + boron, T_8 VAM + RDF (75%) + boron, T_9 RDF (25%) + VAM + poultry manure (50%) +*Azotobacter* +boron, T_{10} (RDF (25%) + VAM + vermicompost (50%) + *Azotobacter* +boron, T_{11} RDF (25%) + VAM + poultry manure (50%) *Azotobacter* + zinc, T_{12} RDF (25%) + VAM + vermicompost 50% *Azotobacter* + zinc and the experiment was laid out under RBD with three replications. The study clearly revealed that there were significant effects of various treatments on the growth, yield and quality attributes of onion. The number of leaves per plant (12.15), plant height (73.02cm), neck thickness (22.00mm), bulb length (6.46 cm), bulb diameter (7.20cm), yield (398.36 kg/ha^{-1}) were recorded maximum in treatment T_{12} whereas T.S.S (14 ºB), vitamin C (12.11mg/100g), total sugars (10.52%), reducing sugar (6.23%) and non-reducing sugar (4.28%) were found maximum in T_{10} treatment as compared to other treatment. However, T_{12} was good for higher yield improvement and T_{10} was the best for quality improvement among the all treatments under study, the application of T_{12} (RDF (25%) + VAM + Vermicompost 50% *Azotobacter* +Zinc) may be suggested for successful cultivation of onion in Lucknow.

Key Words : Organics, Biofertilizers, Micronutrients, Onion, Yield, Quality

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