

GROWTH, YIELD, AND QUALITY OF SUNFLOWER (*Helianthus annuus* L.) AT VARIOUS RHIZOBACTERIA GROWTH PROMOTING PLANT CONCENTRATIONS AND DOSAGES OF COMPOST FERTILIZER

By : Olin Rahmawati
Supervised by : Heti Herastuti and Tutut Wirawati

ABSTRACT

The production of quality sunflower (*Helianthus annuus* L.) is influenced by the availability of macro and micro nutrients during growth. Applying PGPR and providing compost fertilizer is an effort to increase cut flower production. This study aims to obtain the best concentration of PGPR and dosage of compost for sunflower growth, yield, and quality and to study the interaction between the two. The polybag experiment used a method prepared by CRBD (Complete Randomized Block Design) consisting of 2 factors with 3 replications for each treatment. The first factor is concentration of PGPR consisted of 3 levels, namely PGPR 5 ml/l, PGPR 10 ml/l, and PGPR 15 ml/l. The second factor was the dosage of compost consisted of 3 levels, namely 10 tons/ha of compost, 20 tons/ha of compost, and 30 tons/ha of compost. The data obtained were then analyzed by Analysis of Variance (ANOVA). The Duncan Multiple Range Test (DMRT) at the 5% level was carried out immediately without waiting, there was no effect. The results showed that there was no interaction between PGPR and compost fertilizers. The 10 ml/l PGPR treatment gave the best results on the parameters of plant height, number of leaves, stem diameter, and vase life. Treatment of 20 tons/ha of compost gave the best results on the parameters of the number of leaves, the time of the main flowers appeared, and the weight of 100 seeds. Compost fertilizer 30 tons/ha gave the best results on vase life.

Keywords : Sunflower, PGPR, Compost Fertilizer