

THE INTERVAL EFFECT OF THE APPLICATION OF PGPR (*Plant Growth Promoting Rhizobacteria*) COCOA ROOTS ON VARIOUS CONCENTRATIONS ON THE GROWTH OF COACO SEEDS (*Theobroma cacao* L)

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ABSTRACT

The cacao plant with the scientific name *Theobroma cacao* L. is very much found in various regions in Indonesia. One way of propagating this plant is by applying efficient nursery techniques using superior seeds that will produce good seeds, thus the planted seeds meet the requirements, both age and size. This activity was carried out in Juny-October 2020 at the Jember State Polytechnic area. In this activity there are two treatment factors. The first factor is the Interval (N) which consists of 3 different types of PGPR, namely N1 = 1 week: N2 = 2 weeks: N3 = 3 weeks. The second factor is the PGPR concentration used (K) consists of 4 concentrations, namely K1 = control: K2 = 50 ml / l: K3 = 100 ml / l: K4 = 150 ml / l. This research was conducted using a factorial randomized block design (RBD) The parameters observed were plant height, stem diameter, number of leaves, wet weight, dry weight, root length, number of roots, root volume and bacterial density. Based on the results and discussion of the research, it can be concluded that the effect of the time interval for PGPR administration has an insignificant difference in all parameters. In the treatment, the concentration of PGPR had a significant effect on stem diameter. The interaction between interval treatment and PGPR concentration had a significant effect on plant height and had a significant effect on stem diameter. The results showed that giving a concentration of 100 ml / l PGPR had a significant effect on stem diameter at 4 weeks, 6 weeks, 14 weeks, 16 weeks, the effect of the time interval for giving PGPR cacao root on the growth of PA 191 cacao seedlings had no effect on the groth of cacao seedlings, the interaction of PGPR concentration and the PGPR interval had a significant effect on height. 1 week plants with a concentration of 50 ml / l at 2 weeks and 4 weeks of age, the interaction of giving PGPR concentrations and intervals has a significant effect on 2 week stem diameter with a concentration of 50 ml / l at 2 weeks of age, 4 weeks and 10 weeks

Key words: Interval, PGPR Concentration