

The Effect of Concentration of *Plant Growth Promoting Rhizobacteria* and Micro Elements on The Severity of Gemini Virus Attack, Growth, and Yield of Red Chili (*Capsicum annum* L.).

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ABSTRACT

Red chili (*Capsicum annum* L.) is one of the vegetable commodities that has a fairly high marketing value. The quite high demand for red chili is not in line with the production of red chili, which is less stable, due to attacks by Plant Pest Organisms, one of which is Gemini Virus. This research was aimed to determine the best concentration of Plant Growth Promoting Rhizobacteria and micro elements solution that can increase the growth and yield of red chili plants also reduce the severity of disease caused by Gemini Virus attack. The method used in this research was Randomized Complete Block Design factorial (3x3) with two factors + 1 control. The first factor is the concentration of PGPR consisting of 10 grams/liter, 15 grams/liter, dan 20 grams/liter. The second factor is macro elements solution consisting of $MnSO_4$, $ZnSO_4$, dan $MnSO_4 + ZnSO_4$. Data were analyzed using ANOVA Analysis of Variance at a level of 5%, then proceed with the Duncan Multiple Range Test, between control and treatment average proceed with Orthogonal Contrast Test at a level of 5% . The results showed that the best concentration of PGPR solution was at 15 grams/liter in reducing disease severity and the use of $ZnSO_4$ microelement gave the best results indicated in the total number of fruit parameters.

Keywords : PGPR, $MnSO_4$, $ZnSO_4$, gemini virus, red chili

