

**Response of PGPR Application of Shy Daughter Plant root (*Mimosa pudica* L.) to The Growth and Production of Two Varieties of peanut (*Arachis hypogaea* L.) Plants**

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***ABSTRACT***

*The decline in peanut production can be caused by several factors, one of which is the availability of nutrients in the soil. One way to overcome this problem is to use plant growth promoting rhizobacteria (PGPR) biofertilizer from mimosa pudica roots, which contain a group of bacteria that can improve the availability of nitrogen and phosphate. The purpose of this study was to determine the appropriate concentration of PGPR from mimosa root to improve the growth and yield of two peanut varieties. This study was conducted from July 2025 to December 2025 in Patemon Village, Pakusari District, Jember Regency, East Java. This study used a factorial randomized block design with two treatment factors. The first factor was the peanut variety, namely: Katana 2 variety and Tala 1 variety, while the second factor was the concentration of PGPR from mimosa pudica roots, namely: PGPR concentration of 0 ml/l, PGPR concentration of 25 ml/l, PGPR concentration of 50 ml/l, and PGPR concentration of 75 ml/l. The results showed that there was a significant interaction between variety and PGPR on the parameter of plant height at 28 days after sowing (DAS) for the treatment combination (Katana 2 + PGPR 75 ml/l). The variety treatment had a significant effect on the parameters of plant height at 28 DAS, wet biomass weight per sample, number of pods, and weight of 100 seeds. In the PGPR treatment, the best concentration of PGPR was 25 ml/l, which had a significant effect on the parameters of plant height at 28 HST, number of root nodules per sample, wet pod weight per plot, and weight of 100 seeds.*

***Keywords:*** PGPR Shame Princess Root; Peanut Variety