VARIASI KONSENTRASI *PLANT GROWTH PROMOTING RHIZOBACTERIA* (PGPR) RENDAMAN AKAR BAMBU MENGHAMBAT PERTUMBUHAN Jamur *Fusarium oxysporum* SECARA *IN VITRO*

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui: (1) perbedaan daya hambat variasi konsentrasi *Plant Growth Promoting Rhizobacteria* (PGPR) rendaman akar bambu terhadap pertumbuhan jamur *Fusarium oxysporum* yang diuji antagoniskan pada media PDA dan media campuran (PDA+NA), (2) konsentrasi *Plant Growth Promoting Rhizobacteria* (PGPR) rendaman akar bambu yang paling efektif dalam menghambat pertumbuhan jamur *Fusarium oxysporum* yang diuji antagoniskan pada media PDA dan media campuran (PDA+NA). Jenis penelitian ini, yakni *true experimental* dengan Rancangan Acak Lengkap (RAL). Variasi konsentrasi PGPR rendaman akar bambu yang digunakan dalam penelitian ini adalah 2,5%, 5%, 7,5%, dan 10%. Populasi pada penelitian ini adalah stok kultur jamur *Fusarium oxysporum* di Laboratorium Mikrobiologi Undiksha, sedangkan sampelnya adalah jamur *Fusarium oxysporum* yang diberikan perlakuan variasi konsentrasi PGPR rendaman akar bambu. Penelitian ini terdiri atas 3 tahap, yaitu: (1) tahap persiapan, meliputi pembuatan PGPR dari rendaman akar bambu, sterilisasi alat dan bahan penelitian, (2) tahap pelaksanaan, meliputi peremajaan jamur *Fusarium oxysporum* dan pengujian antagonis PGPR rendaman akar bambu terhadap pertumbuhan *Fusarium oxysporum* secara *in vitro* menggunakan kultur ganda (*dual culture*) pada media PDA dan media campuran (PDA+NA), (3) analisis data. Data yang diperoleh dalam penelitian ini dianalisis secara deskriptif dan statistik. Analisis statistik menggunakan uji *One Way Anova* dan dilanjutkan dengan uji Tukey HSD pada taraf signifikansi 0,05. Hasil penelitian ini menunjukkan bahwa ada perbedaan daya hambat variasi konsentrasi PGPR rendaman akar bambu terhadap pertumbuhan jamur *Fusarium oxysporum* yang diuji antagoniskan pada media PDA dan media (PDA+NA). Adapun konsentrasi PGPR rendaman akar bambu yang paling efektif dalam menghambat pertumbuhan jamur *Fusarium oxysporum* adalah konsentrasi 10%.

Kata Kunci: Uji Antagonis, PGPR, Akar Bambu, *Fusarium oxysporum*.

VARIATIONS OF CONCENTRATION OF PLANT GROWTH PROMOTING RHIZOBACTERIA (PGPR) FROM SOAKING BAMBOO ROOTS INHIBITING THE GROWTH OF *Fusarium oxysporum* IN VITRO

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ABSTRACT

This research targets to discover: (1) the difference in the inhibition of variations in the concentration of PGPR from soaking bamboo roots against the growth of *Fusarium oxysporum* which was tested antagonistic on PDA media and mixed media (PDA+NA), (2) the concentration of PGPR from soaking bamboo roots most effective in inhibiting the growth of *Fusarium oxysporum* which was tested to be antagonistic on PDA and mixed media (PDA+NA). This research is true experimental with completely randomized design. The variation concentration of PGPR in this research is 2,5%, 5%, 7,5%, and 10%. Populace in this studi is all stock culture *Fusarium oxysporum* in Microbiology Laboratory Undiksha, even as the sample on this studi is *Fusarium oxysporum* that given variantions of PGPR bamboo roots. This study consisted of 3 stages, namely: (1) the preparation stage, including making PGPR from soaking bamboo roots and sterilization of research tools and materials, (2) the implementation stage, namely rejuvenating *Fusarium oxysporum* and antagonist testing between PGPR from soaking bamboo root on the growth of *Fusarium oxysporum* in vitro using dual cultures on PDA media and mixed media (PDA + NA), (3) data analysis. The data obtained in this study were analyzed descriptively and statistically. Statistical analysis was performed using One Way Anova test and continued with the Tukey HSD test at a significance level of 0.05. The outcomes of this study indicated that there were differences in the inhibition of variation concentration of PGPR from soaking bamboo roots on the growth of *Fusarium oxysporum* tested antagonistic on PDA media and mixed media (PDA+NA). The most effective concentration of PGPR from soaking bamboo roots in inhibiting the growth of *Fusarium oxysporum* was a concentration of 10%.

Key Words: Antagonist Test, PGPR, Bamboo Roots, *Fusarium oxysporum*