

PENGARUH KONSENTRASI *PGPR* TERHADAP PERTUMBUHAN BIBIT JAHE MERAH

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INTISARI

Usaha pembibitan jahe merah sangat identik dengan sistem budidaya organik mengingat pemanfaatan jahe sebagai tanaman bahan baku fitofarmaka. Salah satu teknologi pemupukan alternatif yang memanfaatkan pupuk hayati untuk mengakselerasi pertumbuhan bibit jahe adalah *PGPR* (*Plant Growth Promoting Rhizobacteria*). Penelitian ini bertujuan untuk menguji pengaruh aplikasi berbagai konsentrasi *PGPR* Bio-Ferti terhadap pertumbuhan bibit jahe merah. Penelitian dilaksanakan di UPT Kebun Percobaan Unit II UMBY, Gunung Bulu, Sedayu, Bantul pada Maret – Juni 2021. Eksperimen disusun dalam Rancangan Acak Lengkap faktor perlakuan tunggal dengan 5 taraf perlakuan (tanpa *PGPR*, konsentrasi *PGPR* 0 %, 15 %, 25 %, 35 % dan 45 %) yang masing-masing diulang sebanyak tiga kali. Variabel yang diamati meliputi persentase hidup, jumlah daun, tinggi tanaman, bobot basah, bobot kering, panjang dan volume akar. Data pengamatan seluruh variabel dianalisis dengan sidik ragam $\alpha = 5\%$, dilanjutkan dengan *Duncan's Multiple Range Test*. Hasil kajian menunjukkan bahwa perenaman rimpang dalam larutan *PGPR* Bio-Ferti konsentrasi 15% hingga 45% menunjukkan pertumbuhan panjang akar dan jumlah daun bibit jahe merah umur 8 mst cenderung lebih baik dibandingkan tanpa pemberian (kontrol).

Kata kunci: konsentrasi *PGPR*, pertumbuhan bibit, jahe merah.

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EFFECT OF *PGPR* CONCENTRATION ON THE GROWTH OF RED GINGER SEEDLING

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ABSTRACT

The red ginger nursery is very identical to the organic cultivation system given the ginger utilization as a fitofarmaka raw material plant. One alternative fertilization technology that utilizes biological fertilizer to accelerate the growth of ginger seedlings is *PGPR* (*Plant Growth Promoting Rhizobacteria*). This study aims to test the effect of *PGPR* Bio-Ferti application on the growth of ginger seedling and know the best concentration of *PGPR* in ginger nursery. This research was conducted at UPT experimental garden unit II UMBY, Gunungbulu, Sedayu, Bantul since March to June 2021. The experiment was arranged in a Completely Randomized Design of a single factor with 5 level of treatment (without *PGPR*, 15%, 25%, 35% , and 45% concentration of *PGPR* solution). The treatments were repeated three times. The observed variables include life percentage, number of leaves, plant height, time of shoot emerged, shoot dry weight, root length, and root volume. Data of all observed variables were then analyzed by variance analysis followed by *Duncan's Multiple Range Test*. Results of the study showed that the *PGPR* Bio-Ferti application significantly influences positively to the growth of red ginger seedlings. Immersion of seed rhizomes in *PGPR* Bio- Ferti solution concentration of 15% to 45% showed the growth of root length and leaf number of red ginger seedlings aged 8 weeks tended to be better than without administration (control).

Keyword: *PGPR* concentration, seedling growth, red ginger

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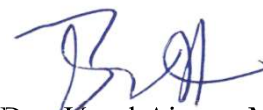
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