

**PENGARUH PEMBERIAN BEBERAPA JENIS  
RHIZOBAKTERI INDIGENUS HASIL ISOLASI PADA  
KEBUN SAWIT ASAL KABUPATEN MERANGIN JAMBI  
TERHADAP PERTUMBUHAN BIBIT KELAPA SAWIT  
(*Elaeis guinensis* jacq) DI PRE NURSERY**

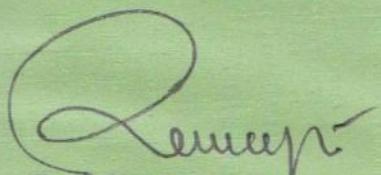
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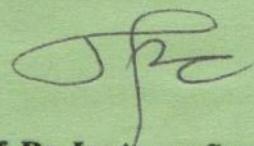
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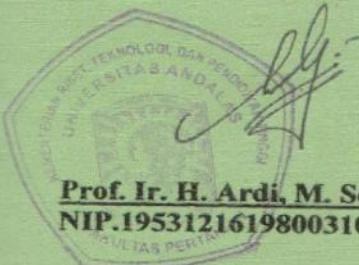
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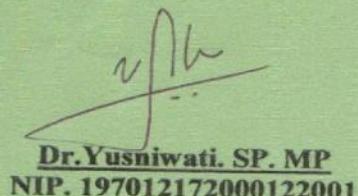
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**EFFECT OF SOME INDIGENUS RHIZOBACTERIA, ISOLATED FROM AN OIL PALM PLANTATION IN KABUPATEN MERANGIN JAMBI, ON THE GROWTH OIL PALM (*Elaeis guinensis* Jacq) SEEDLINGS IN THE PRE-NURSERY**

*S1 Thesis by Randy Arif Nopangga, lectures: 1. Prof. Dr. Ir. Reni Mayerni, MP. 2. Prof. Dr. Ir. Auzar Syarif, MS*

**ABSTRACT**

Little effort has been made to improve the growth of oil palms in the pre-nursery using plant growth promoting rhizobacteria. These are a group of bacteria colonizing the roots of plants and thriving in soil rich with organic matter. The research was carried out at the Experimental Farm and Microbiological Laboratory of Andalas University from June until October 2016. A completely randomized design consisting of five treatments (RZ<sub>4</sub>SW<sub>1997</sub>, RZ<sub>14</sub>SW<sub>2005</sub>, E<sub>6</sub>SW<sub>1997</sub>, E<sub>12</sub>SW<sub>2005</sub> and control) and four replicates was used. The parameters observed were: height of seedlings, number leaves, leaf area, length of the longest root, trunk diameter, seedling fresh weight, root fresh weight, dry weight of roots, ratio of above ground plant material to root material, and seedling dry weight. Data were analyzed used the F-test at the 5% level. Significant differences were further tested using Duncan's New Multiple Range Test also at the 5% level. The rhizobacteria only affected the height of seedlings, the number of leaves and leaf area. The best rhizobacterial isolates were E<sub>6</sub>SW<sub>1997</sub> and RZ<sub>4</sub>SW<sub>1997</sub>.

**Keyword:** Rhizobakteria Indigenus, palm oil, pre-nursery

This thesis has been defended and has passed on 18 January 2017

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## **PENGARUH PEMBERIAN BEBERAPA JENIS RHIZOBAKTERI INDIGENUS HASIL ISOLASI PADA KEBUN SAWIT ASAL KABUPATEN MERANGIN JAMBI TERHADAP PERTUMBUHAN BIBIT KELAPA SAWIT (*Elaeis guinensis* Jacq) DI PRE-NURSERY**

*Skripsi S1 oleh Randy Arif Nopangga, pembimbing: 1. Prof. Dr. Ir. Reni Mayerni, MP. 2. Prof. Dr. Ir. Auzar Syarif, MS*

### **ABSTRAK**

Salah satu usaha untuk meningkatkan pertumbuhan tanaman kelapa sawit di *pre-nursery* dilakukan dengan *Plant Growth Promoting Rhizobacteri*. PGPR merupakan bakteri yang aktif mengkolonisasi akar tanaman dan berkembang dengan baik pada tanah yang kaya bahan organik. Penelitian telah dilaksanakan di Kebun Percobaan dan Laboratorium Mikrobiologi Fakultas Pertanian, Universitas Andalas, dari bulan Juni sampai Oktober 2016. Metode yang digunakan yaitu Rancangan Acak Lengkap (RAL), terdiri lima perlakuan dengan empat kali ulangan yaitu RZ<sub>4</sub>SW1997, RZ<sub>14</sub>SW2005, E<sub>6</sub>SW1997, dan E<sub>12</sub>SW2005 dan Kontrol. Parameter yang diamati meliputi tinggi tanaman, jumlah helaihan daun, luas daun bibit, panjang akar, diameter batang, bobot segar bibit total, bobot segar akar, bobot kering akar, ratio tajuk akar, bobot kering bibit total. Data dianalisis secara statistik dengan uji F pada taraf nyata 5%. Apabila F hitung lebih besar dari F tabel 5%, maka dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DNMRT) pada taraf 5%. Hasil penelitian menunjukkan bahwa pemberian rhizobakteri hanya mempengaruhi tinggi tanaman, jumlah daun dan luas daun. Rhizobakteri terbaik diperoleh pada isolat E<sub>6</sub>SW1997 dan RZ<sub>4</sub>SW1997.

Kata kunci : *Rhizobakteri indigenus, Tanaman Kelapa Sawit, Pre-Nursery*

Skripsi ini telah dipertahankan didepan sidang penguji dan dinyatakan lulus tanggal 18 Januari 2017

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