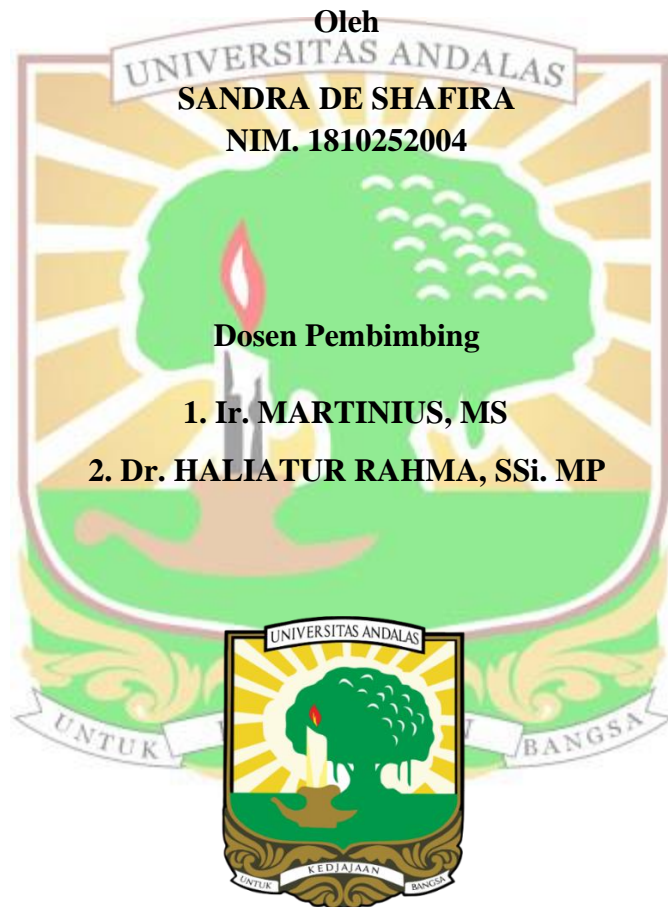


**KEMAMPUAN ANTAGONIS AKTINOBAKTERI TERHADAP *Rhizoctonia solani* Kühn PENYEBAB PENYAKIT HAWAR PELEPAH PADA PADI
SECARA *IN VITRO***

SKRIPSI



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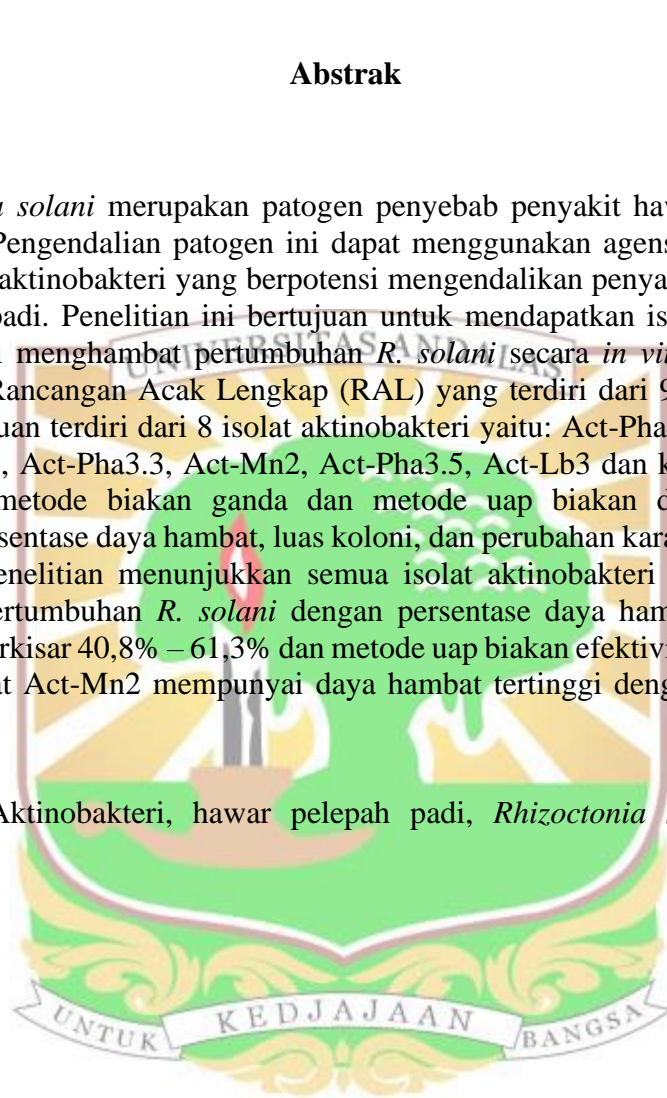
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Kemampuan Antagonis Aktinobakteri terhadap *Rhizoctonia solani* Kühn Penyebab Penyakit Hawar Pelepah pada Padi Secara *In Vitro*

Abstrak

Rhizoctonia solani merupakan patogen penyebab penyakit hawar pelepah pada tanaman padi. Pengendalian patogen ini dapat menggunakan agensia hayati bersifat antagonis yaitu aktinobakteri yang berpotensi mengendalikan penyakit hawar pelepah pada tanaman padi. Penelitian ini bertujuan untuk mendapatkan isolat aktinobakteri yang berpotensi menghambat pertumbuhan *R. solani* secara *in vitro*. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) yang terdiri dari 9 perlakuan dan 4 ulangan. Perlakuan terdiri dari 8 isolat aktinobakteri yaitu: Act-Pha4, Act-Hr21, Act-Hr56, Act-Hr49, Act-Pha3.3, Act-Mn2, Act-Pha3.5, Act-Lb3 dan kontrol. Pengujian menggunakan metode biakan ganda dan metode uap biakan dengan parameter pengamatan persentase daya hambat, luas koloni, dan perubahan karakter morfologi *R. solani*. Hasil penelitian menunjukkan semua isolat aktinobakteri berpotensi dalam menghambat pertumbuhan *R. solani* dengan persentase daya hambat pada metode biakan ganda berkisar 40,8% – 61,3% dan metode uap biakan efektivitas berkisar 52,26 – 94,09%. Isolat Act-Mn2 mempunyai daya hambat tertinggi dengan rata-rata daya hambat 70%.

Kata kunci: Aktinobakteri, hawar pelepah padi, *Rhizoctonia solani* Kühn, uji antagonis



Antagonistic Potential of Actinobacteria Against *Rhizoctonia solani* Kuhn. Causes of Sheath Blight Disease In Rice In Vitro

Abstract

Rhizoctonia solani is a pathogen that causes sheath blight diseases on rice plants. This pathogen can be reduced with an antagonistic biological agent. Actinobacteria is a microorganism that can potentially control sheath blight disease in rice plants. This study aimed to obtain actinobacteria isolates that have the potential to inhibit the growth of the fungus *R. solani in vitro*. The study was carried out using a completely randomized design with 9 treatments and 4 repetitions. The treatment consisted of 8 actinobacteria isolates, namely: Act-Pha4, Act-Hr21, Act-Hr56, Act-Hr49, Act-Pha3.3, Act-Mn2, Act-Pha3.5, Act-Lb3 and control. Antagonistic of actinobacteria against *R. solani* was carried out using the dual culture method and volatile culture method with the parameters of observing the percentage of inhibition, colony area, and changes in the morphological characters of *R. solani*. The study's results showed that all actinobacteria isolates had the potential to inhibit the growth of *R. solani* with the percentage of inhibition in dual culture method from 40.8% – 61.3% and the effectiveness of the volatile method ranged from 52,26 – 94,09%. Isolate Act-Mn2 has the highest inhibition with an average inhibition of 70%.

Keywords: Actinobacteria, antagonist test, *Rhizoctonia solani* Kühn, rice sheath blight

