

**HORMON PEMICU PERTUMBUHAN TANAMAN YANG DIHASILKAN  
OLEH ISOLAT BAKTERI RHIZOSFER TANAMAN NANAS  
(*Ananas comosus* (L.) Merr. 'Smooth Cayenne')**

**Auliana Afandi  
13/354235/PBI/1199**

**ABSTRAK**

Bakteri pada risosfer memiliki peranan pening dalam mempengaruhi pertumbuhan tanaman. Bakteri pada risosfer dapat menghasilkan IAA, GA dan sitokinin yang dalam jumlah sedikit dapat mempengaruhi metabolisme tanaman sehingga dapat memicu pemanjangan dan pembelahan sel, pertumbuhan tunas dan akar serta pembentukan buah. Penelitian ini bertujuan untuk: (1) menyeleksi isolat bakteri rhizosfer tanaman nanas yang mampu memproduksi hormon dan (2) menguji aplikasi kultur isolat yang mampu memproduksi hormon pada pertumbuhan kacang tolo (*Vigna unguiculata* L.). Sampel tanah diambil dari lahan perkebunan nanas PT. Great Giant Pineapple Lampung. Isolasi dilakukan menggunakan medium TSA, uji kandungan hormon dilakukan dengan HPLC, uji perkecambahan dilakukan dengan merendam biji pada kultur cair bakteri (OD=1.20) dan menumbuhkan dalam cawan petri. Dari hasil penelitian ini diperoleh tiga isolat *rhizobacteria* dari tanaman nanas yang mampu menghasilkan IAA, GA dan sitokinin. Hasil analisis HPLC terhadap kandungan IAA, GA dan sitokinin menunjukkan bahwa isolat KGP3A mampu menghasilkan IAA mencapai 1999.16 ng/ml, GA sebanyak 2373.67 ng/ml. dan sitokinin sebanyak 739.11 ng. ml. Berdasarkan *profile matching* dengan menggunakan *Bergey's Manual of Determinative Bacteriology*, isolat yang diperoleh diduga merupakan strain anggota genus *Pseudomonas*. Hasil aplikasi isolat terhadap pertumbuhan tanaman kacang tolo terbukti meningkatkan pertumbuhan kecambah secara signifikan (Sig = 0.008).

Kata kunci: bakteri, rhizosfer, fitohormon, *Ananas comosus*

**GROWTH PROMOTING HORMONS PRODUCED BY  
RHIZOBACTERIA ISOLATES FROM PINNEAPPLE  
(*Ananas comosus* (L) Merr. 'Smooth Cayenne')**

**Auliana Afandi  
13/354235/PBI/1199**

**ABSTRACT**

Rhizobacteria have a significant role in promoting plant growth. It can produce IAA, GA and cytokinin. These hormones needed by plant in small amount to improve plant metabolisms which affect cell elongation and division, fruit formation as well as shoot and root growth. This study were aimed to (1) select rhizobacteria isolates which has ability in producing hormones and (2) to evaluate the effect of application of selected isolates on growth of *Vigna unguiculata* L. germination. Soil samples were obtain from pineapple plantation in PT. Great Giant Pineapple Lampung. Bacteria isolation were performed using TSA medium, ability of selected isolates in producing hormones were analyzed by HPLC, *V. unguiculata* seeds treated with isolates culture (OD= 1.20) was evaluated for its germination and seedling. Result of this experiment showed that there are three isolates that has ability in producing IAA, GA<sub>3</sub> and cytokinin. HPLC result showed that isolate KGP3A can produce IAA of 1999.16 ng/ ml, GA of 2373.67ng/ml and cytokinin of 739.11 ng/ml. Based on profile matching using Bergey's Manual of Determinative Bacteriology, isolates were suspected to be members of the *Pseudomonas* genera. Results of isolates applications on the growth of test plants shown that it can significantly increase the growth of *V. unguiculata* sprouts (Sig= 0.008)..

Keywords: bacteria, rhizosphere, phytohormons, *Ananas comosus*