SENASTEK 2017
Call for Papers

SEMINAR NASIONAL SAINS & TEKNOLOGI IV
14 - 15 Desember 2017

Hilirisasi Inovasi Humaniora, Sains dan Teknologi untuk Pembangunan Berkelanjutan

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RESEARCH and COMMUNITY SERVICE for PROSPERITY
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| 1.  | Ir. Komang Ayu Nocianitri, M.Agr.Sc.          |
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|     | Dengan Menggunakan Teknik Mikroenkapsulasi    |
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| 2.  | Dr. Ir. I Dewa Nyoman Nyana, M.Si.            |
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| 3.  | Ir. Agus Selamet Duniaji, M.Si.               |
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| 4.  | Ir. Amna Hartiati, M.P.                       |
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| 7.  | Ir. I Gusti Ngurah Raka, M.S.                 |
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24. Prof. Ir. I Gusti Ayu Mas Sri Agung, M.Rur.Sc, Ph.D. Perlakuan Benih Sebelum Tanam Mempercepat Germinasi Dan Transplanting Bibit Bawang Merah Aman

25. Prof. Dr. Ir. I Made Sudana, M.S.
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SEBAGAI PEMAKALAH

Pada Acara Seminar Nasional Sains dan Teknologi IV Tahun 2017
"Hilirisasi Inovasi Humaniora, Sains dan Teknologi untuk Pembangunan Berkelanjutan"
yang Dilaksanakan pada Tanggal 14-15 Desember 2017
di The Patra Bali Resort & Villas, Kuta, Badung, Bali

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LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT UNIVERSITAS UDAYANA

RESEARCH and COMMUNITY SERVICE for PROSPERITY
Utilization of Phosphate Solubilizing Rhizobacterium Derived from Leguminosae Plants to Stimulating Plant Growth and Induce Systemic Resistance of Peanuts (*Arachis hypogaea* L) to Pant Diseases

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**Abstract**

Some studies allegedly in the field even though there are microbes other than Rhizobium that live around the roots, these microbes are able to improve the roots of plants to form more root hairs, because with the number of roots hair then and more *Rhizobium* bacteria into the roots of Peanuts. In general, the compounds needed to improve the formation of hair roots are the growth hormone IAA, this hormone is in addition produced by PGPR bacteria. These bacteria, although applied at the root, are also capable of improving other parts of the plant to produce toxic compounds for pests and diseases, so plants resistant to pests, the bacteria are also called Systemic Acquired Resistance (SAR) bacteria or systemic resistance inducing to pests.

From the results of this research, it was found that the Phosphate Solubilizing Rhizobacterium, that have been formulated in the form of biofertilizer formulation of Flour Formulation (T), Liquid Formulation (C), Sand Formulation (P), and Compost Formulation (K), able to improve plant growth in the form of plant height, number of leaves and number of branches compared to control. Liquid and flour formulations, however, generally very low stimulating plant growth. From the observation of the disease, the disease is encountered in Blight and leaf spot, but the biofertilizer treatment of Phosphate Solubilizing Rhizobacterium able to protect the leaves of bean plant from Leaf Blight disease (*Leptosphaerulina crassiasca*), *Alternaria arachidis* leaf spot. However, the biofertilizer of Phosphate Solubilizing Rhizobacterium is less able to protect you from leaf spot *Cercospora arachidicola*

**Key word.** Peanuts (*Arachis hypogaea* L), Phosphate Solubilizing Rhizobacterium, *Systemic acquired resistance* (SAR), paddy fields