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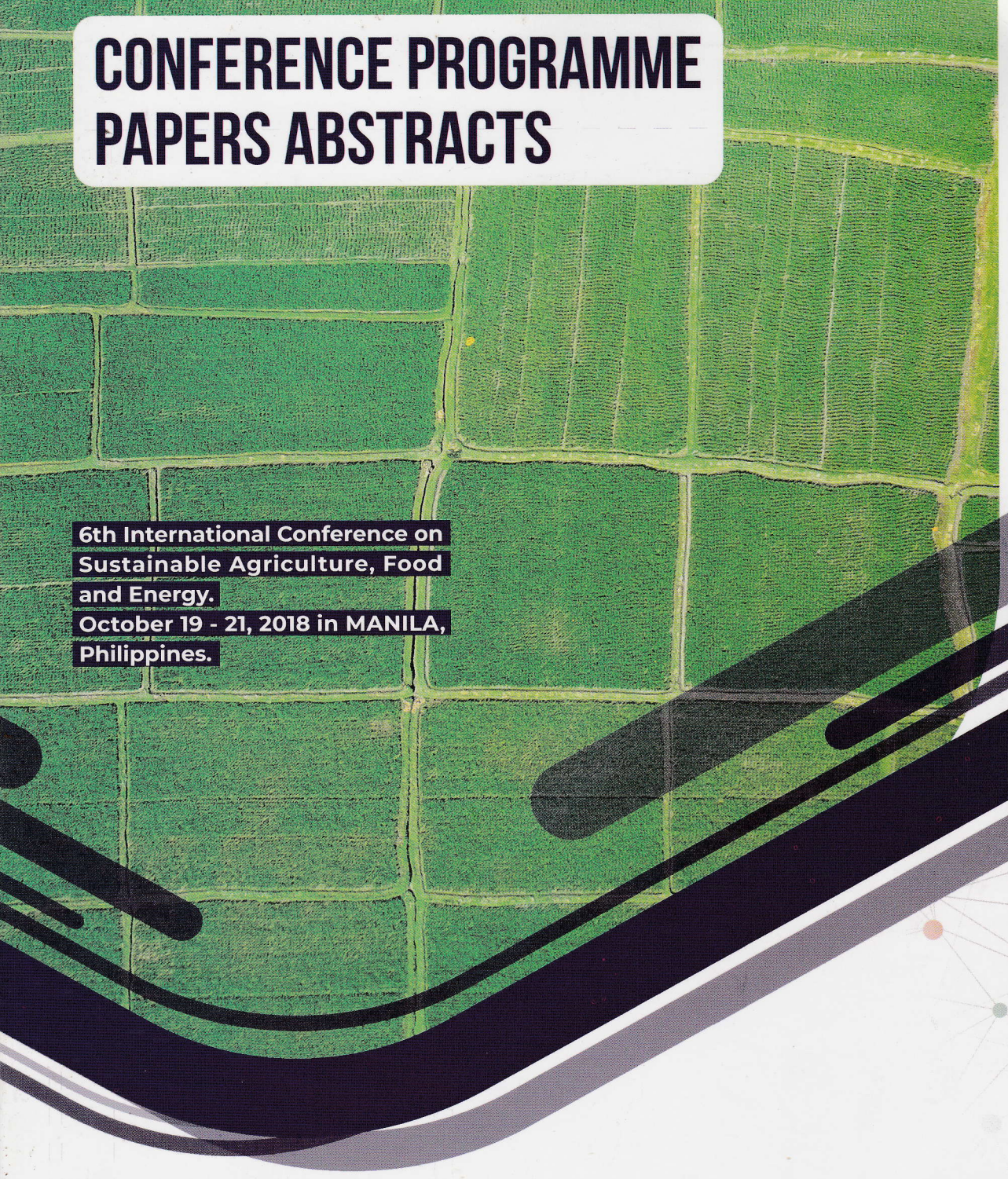

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SA/E-43	**ANALYSIS OF WATER BALANCE TO DETERMINE CROPPING PATTERNS OF FOOD CROP IN WATERSHED TENGGARONG- KUTAI KARTANEGARA REGENCY** **Akas Pinaringan Sujalu I, Abdul Fatah[1], M Hidayanto[2], Yossita Fiana[2] And Akas Yekti Pulihasih[3]** *[1] Faculty of Agriculture, The University of 17th August 1945 University Samarinda;* *Address: Ir. H. Juanda 80 road-Samarinda 75124, East Kalimantan Province, Indonesia; Ph/Fax +62541743390; Mp +6281545995696; e-mail: pinaringan_b@yahoo.co.id* *[2] Agency for Agriculture Research and Development the Province of East Kalimantan; INDONESIA* *Address: Jl. Pangeran M. Noor, Sempaja-PO Box 1832 Samarinda 75119-East Kalimantan. INDONESIA[3]. Kartini University.* *Address: Jl. Raya Nginden 19-23 Ph'. (031) 5944462; Fax. (031) 5941954 Surabaya. INDONESIA*

SA/E-33
REINOCULATION OF INDIGENOUS AZOTOBACTER ISOLATES WITH MULTIPLE RICE VARIETIES TO INCREASED RICE PRODUCTION METHOD OF SRI AND RICE LAND QUALITY

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2# Department of Plantation Cultivation, State Agricultural Polytechnic Payakumbuh. , Tanjung Pati Highway 7 km District District Limapuluh Kota Harau 26271.E-mail: ritaerlinda@yahoo.com

Abstract — **Nitrogen as an essential macronutrient has an important role in increasing rice production. Nutrient N is a limiting factor in increasing rice production. The problem of N elements in wetlands is relatively short availability, easily dissolved in water, carried by percolation, surface flow and volatile. The efficiency of N fertilizer uptake by lowland rice plants is relatively low at around 30-50%, this increases the production costs borne by farmers. Intensive use of chemical fertilizers on agricultural land in the long run causes a decrease in soil organic matter, soil structure is damaged and environmental pollution will occur. The effective solution is the use of non-symbiotic *Azotobacter* indigenous from intensified rice fields planted with SRI method rice and give it back to the root zone of the bacterial origin in optimal quantities and conditions (Reinoculation) to rice plants. The aim of the study was to obtain the right dose of *Azotobacter* isolates in several suitable rice varieties which could increase the production and quality of rice fields. The research was a field experiment with factorial randomized block design. The first factor was the dose of *Azotobacter* isolates and the second factor was the variety of rice plants. The results showed that the dose of *Azotobacter* isolates 200 l / ha and Sijunjung rice varieties gave the highest growth and production response cultivated by the SRI method. The results of soil analysis showed that the superior varieties were more responsive in absorbing N and P elements, but the K element was more dominantly absorbed by local varieties so that it was heavier on straw. The higher the dose of *Azotobacter* isolates, the higher the N and P uptake for superior varieties, but the absorption of K is more efficient and the local varieties are the greater uptake of K. Conclusions *Azotobacter* dose re-inoculation of superior and local varieties of rice plants have different N, P, and K nutrient uptake to produce different products.**

Keywords—**Azotobacter, SRI, reinoculation, unggul varieties, local varieties**

SA/E-34
APPLICATION *AZOTOBACTER* AND *PSEUDOMONAS FLUORESCENTS* BACTERIA *INDIGENOUS* TO IMPROVE PLANT RICE PRODUCTION SRI METHOD

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Abstract — **The intensification of rice fields have been dominated by high artificial fertilizers, especially N and P. Nitrogen and phosphate as essential macronutrients, have an important role in increasing rice production. N and P malnutrition can be a limiting factor in increasing rice production. The problem of N elements in wetlands is relatively short availability, easily dissolved in water, carried by percolation, surface flow and volatile. The efficiency of N fertilizer uptake in the tropics by lowland rice crops is relatively low at around 30-50%. The problem of the availability of P elements is low, only 15-20% unusable P which can be absorbed by the plant, so that the structure of the soil becomes solid, and the soil organic matter content decreases. The high P residue causes the land to become a criterion Effective and efficient solutions are needed, namely a biological approach by utilizing the *rhizobacteria* group on the problem at hand. The existence of indigenous *rhizobacteria* is very diverse in the soil. This is influenced by biotic and abiotic factors in the soil. The type of *rhizobacteria* expected to be able to increase the availability of special nutrient elements N is the *indigenous* native species, namely *Azotobacter*. The type of *rhizobacteria* that can mine P elements that are not available to be available is a type of local phosphate solvent bacteria, *Pseudomonas fluorescents indigencus*. Both types of *indigenous rhizobacteria* were applied to the SRI method of rice. The aim of this study was to determine the *Azotobacter* bacteria and *Pseudomonas fluorescents* can be combined and determine the dose of *Azotobacter* bacteria and the appropriate dose of *Pseudomonas fluorescents* bacteria can increase the production of SRI rice plants. The research was carried out in vitro in TSA medium and in a greenhouse. The results showed no inhibitory power between *Azotobacter* bacteria and *Pseudomonas fluorescents*. Application in the greenhouse showed that at a dose of 20 ml / l *Azotobacter* and a dose of 30 ml / l *Pseudomonas fluorescents* gave the highest vegetative growth and production in the SRI method. Conclusion *Azotobacter* bacteria and *Pseudomonas fluorescents* can be combined in one formulation. The best *Azotobacter* dose of 20 ml.l and *Pseudomonas fluorescents* bacteria 30 ml / l.**

Keywords—***Azotobacter, Pseudomonas fluorescents, SRI, rhizobacteria, indigenous***

SA/E-35
THE ABUNDANCE OF SCIRTOTHRIPS DORSALIS AND THRIPS HAWAIIENSIS ON WILD VEGETATION IN MANGOSTEEN PLANTATION

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This research objective was to find out an abundance of *Scirtothrips dorsalis* dan *Thrips hawaiiensis* (Thysanoptera: Thripidae) population on wild vegetation in mangosteen plantation. The research was conducted in Kandang Tarok Village, Enam Lingkung Subdistric, Pariaman Distric, West Sumatera. The method used was the least-squares method. A total of 5 plots were laid using a purposive sampling with the plot size of 2 m x 2 m, five times of repetation. The type and the number of weed species on each plot were recorded, identified, measured its dominance level. We observed the shoot, flower bud, open flower on wild vegetation. There were two species of thrips: *Scirtothrips*