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# Global Innovation on Sustainability and Sustainable Development



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**THE TEST OF INDIGENOUS AZOTOBACTER  
ISOLATES COMBINATION TO THE  
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**Optimizing the Role of Agricultural Field Extension  
in Sustainable Land Farming Planning in the Era of  
Regional Autonomy**



SDME-34

## THE TEST OF INDIGENOUS AZOTOBACTER ISOLAT COMMINATION TO THE IMPROVEMENT OF RICE RESULT SRI METHOD AND QUALITY LAND QUALITY

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**Abstract**— Wetland intensification in Indonesia reaches 10.387.700 ha (90.5%) (BPS, 2011). The problem of this field is managed anaerobic system with low productivity of 5.13 ton h-1 (BPS, 2012). The management of this field is dominated by high inorganic fertilizers especially N and P, resulting in nutrient accumulation that causes degraded soil. Nitrogen is a nutrient that has a big role in increasing rice production. The problem of N fertilizer availability is limited time short, easily dissolved by water, drifting currents and volatile, low absorption efficiency 30-50%. This indicates that more than 50% of the fertilizer given can not be taken by rice plants (Prasad and De data, 1979). An effective and efficient solution is a biological approach by utilizing the rhizobacteria group. Non-symbiotic N-blocking bacteria belong to the rhizobacteria group that play a role in the provision of N element for plants (Khairul, 2001). Several types of rihizobacteria can function as Ryzobacteria Growth of Plant Growth (RPPT) (Alexander, 1977). Indigenous rhizobacteria are more adaptive and efficient because rhizobacteria colonies will develop well in the soil if there is association with suitable plant roots and greater N-blocking ability. Using rice cultivation SRI method (The System of Rice Intensification) enables beneficial microorganisms live and active, and availability abundant because this method uses aerobic system. This study aims to determine: (1) The combination of isolate bacteria N indigenous binding to rice production SRI method. (2) To know the improvement of rice field quality from the effect of Azotobacter bacteria. The experiment was conducted by using a Completely Randomized Design with a combination treatment of 3 types of indigenous N blocking isolates. The treatment is: I1: Isolate A, I2: Isolate B, I3: Isolate C, I4: Isolate (A + B), I5: Isolate (A + C), I6: Isolate (B + C), I7: Isolate A + B + C) with 3 reps so there are 21 pots. Analysis of wetland soil quality is done in the laboratory of the State Agricultural Polytechnic Payakumbuh. The results showed that the combination of isolates I4 (A + B) obtained the highest observation results from all observed meters of observation. Analysis of paddy soil quality increased especially P not available to P available from 15 ppm to 45 ppm

**Keywords**— Rice, SRI, indigenous, Azotobacter

SDME-35

## Analaysis of Potential Areas for Livestock Business Development in Gianyar Regency of Bali Province

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**Abstract**— Analysis of potential areas based on livestock commodities, has a close relationship and support one another in order to accelerate regional economic growth. This is a survey research, conducted in all districts in Gianyar Regency (Blahbatuh, Gianyar, Tegalalang, Payangan, Tampaksiring, Sukawati, and Ubud). Respondents in this study were determined by using purposive sampling method consisting of 35 bali cattle farmers, 35 goat farmers, and 35 pig farmers. Research data were analyzed using Location Quotient (LQ) analysis, regional carrying capacity analysis, and descriptive analysis. The objectives of this research are: 1) to identify potential of bali cattle, goat and pig farming in each district in Gianyar Regency, and 2) to analyze the carrying capacity of this area for livestock business development in Gianyar Regency. The results of this study indicate that: 1) Gianyar District are potential to developed as a goat and pig farming with LQ 2,46 and 1,4; Payangan District are potential to developed as a pig, and bali cattle farming with LQ 4,78 and 4,41; Sukawati Distric are potential to developed as a goat farming with LQ 1,47; Tegalalang Distric are potential to developed as bali cattle farming with LQ 6,25; Tampaksiring Distric are potential to developed as bali cattle and pig farming with LQ 4,06 and 1,29; Belahbatuh Distric are potential to developed as bali cattle farming with LQ 1,47; and Ubud are potential to developed as bali cattle and pig farming with LQ 2,46 and 1,09. 2) Availability of forage and other supporting facilities in each district are sufficient for livestock business development in Gianyar Regency.

**Keywords**— potential area, location quotient, and carrying capacity.