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Conference Program & Abstracts

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3.	AE03	Yodfiatfinda	Development of the Centre for Villages Economics Growth by Using Location Quotation Method: The Case Study of West Lombok Regency, Nusa Tenggara Barat Province	Universitas Trilogi
4.	AE04	Hanan Ali Mohamed Alabasi	Factors affecting technical efficiency of wheat Production: A Case Study of Southwest Farms in Libya	Universiti Putra Malaysia
5.	AE05	Umar Mukhtar	Evaluation of Technical Efficiency of Pearl Millet Production in Jigawa State, Nigeria: A Stochastic Frontier Analysis Approach	Universiti Putra Malaysia
6.	AE06	Eni Istiyanti	Efficiency of Organic Rice Farming in Bantul Regency Special Region of Yogyakarta	Universitas Muhammadiyah Yogyakarta
7.	AE07	Susanawati	Factors Influencing Farming Income of Shallot in Java Indonesia	Universitas Muhammadiyah Yogyakarta
8.	AE08	Triwara Buddhi Satyarini	Analysis of Integrated Farming System on Coastal Land	Universitas Muhammadiyah Yogyakarta
9.	AE09	Usman Pato	Utilization of Nipah Palm Fruit as Raw Material for Making Jam	Universitas Riau
10.	AE10	Hasni Arief	Productivity and Economic Performance of Dairy Goat Farming Business upon Constellation of Livestock Agribusiness	Universitas Padjadjaran
11.	AE11	Nikmatul Khoiriyah	The Demand for Animal Foods in Indonesia	Universitas Brawijaya
12.	AE12	Anik Suwandari	Investment Analysis of Farm Management of 1-year Planting System in Non-Technical Irrigation Field	Universitas Jember
13.	AE13	Zineb Abdulaker M Benalywa	The Impact of Government Incentives on Broiler Contract Farming Production in Johor	Universiti Putra Malaysia

Efficiency of Organic Rice Farming in Bantul Regency Special Region of Yogyakarta

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Abstract

The use of chemical inputs was expected to decrease soil fertility, decline biodiversity and increase pest, disease and weed attacks. Another negative impact is the contamination of agricultural products by chemicals, which would further adversely affect human health. Public awareness on health and environmental hazards has led to the transition of conventional farming practices to organic systems. Organic farming is defined as agricultural activities that are free from the use of chemicals: ranging from seed treatment, fertilizer use, and pest control, in post-harvest. In spite of the fact that the Standard Operating Procedure-Good Agriculture Practice (SOP-GAP) of organic rice farming in Bantul District already exists, the use of the production factors are still customary. One of the production factors that were cheap and easy to obtain is organic manure. However, farmers need to use it in large amounts. Conversely, the production factors that were more expensive tend to be used in small quantities. The objectives of the research were to know the effectiveness of the application of organic farming's SOP and to analyse the technical efficiency (TE), price and economics of organic rice farming. The research was conducted in Bantul Regency using the basic method of descriptive analysis, which was implemented using survey method. The census sampling was used for all organic rice farmers who were members of Gapoktan "Mitra Pertanian". The respondents consisted of farmers, renter and tenant farmers. Primary data was collected via interview using well-structured questionnaires and observation guidance. The level of effectiveness of application of SOP of organic rice farming was measured using achievement score, which was obtained from the farmers during planting, maintenance, harvesting and post-harvest processes. The data were analysed using Cobb-Douglas Frontier production function, which was used to determine TE, allocative efficiency and economic efficiency in organic rice farming. The results showed that the effectiveness level of SOP application was 71.26%, which means that although the use of production factors were only based on traditional standard but farmers have applied most of the organic farming SOP. All the production factors of organic rice farming showed a partially significant effect on the production of organic rice. The variables: land area, seeds, and manure have a significant positive effect, while petroganik fertilizer and labour showed a significantly negative effect. The TE level of organic rice farmers in Bantul Regency was 71%. While the lowest TE level was 25.9%, the highest was 99.9%. More than 60% of farmers achieved a TE level of about 70 to 99%. Farmers who achieved a high level of efficiency had more than 10 years of experience with a land area of less than 1000 m². These farmers also had a land rent status. Based on the analysis of allocative efficiency (price), land and manure were inefficient. More so, the used of seed production was not efficient. The level of economic efficiency is 2.635 or more than 1. This indicated that organic rice farming in Bantul has not reached economic efficiency. Land status was a factor affecting the TE level of organic rice farming and there were differences in TE level achieved by the farmers, renter and tenant farmers. The renter and tenant farmers have a relatively higher level of TE as compared to the farmers. In other words, organic farmers who have no land could produce higher production. Landowner farmers are expected to learn from renter and tenant farmers in the use of production factors.

Keywords: Organic Rice, Efficiency, Land Status