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Evaluasi Aplikasi Biofertilizer EMAS pada Tanaman Jagung di Pelaihari, Kalimantan Selatan

Evaluation of Bio-fertilizer EMAS Application in Corn at Pelaihari, South Kalimantan

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ABSTRACT

Implementation of national food safety program to increase food production still faces some constraints. The intensification program has resulted the marginal land to be fully dependent on chemical fertilizers, where leveling-off production has occurred. Low organic matter content as a source of microbial feed and energy decreased the activity of soil microbes. Efficiency of fertilization on marginally suitable soils might be achieved by the application of biofertilizer. Enhancing Microbial Activities in the Soils (EMAS) is a biofertilizer consisting of non-symbiotic N-fixing bacteria, phosphate-solubilizing microbes, and aggregate stabilizing microbes. This experiment was initiated to evaluate the effectiveness of EMAS bio-fertilizer in reducing the dosage of conventional fertilizers used in corn at Pelaihari, South Kalimantan. Based on the current production value and total of cost production, reducing 25, 50 and 75% conventional fertilizer provided the planters with 1.44, 1.13, and 1.12 revenue cost ratio. Yield of dry grain of corn was higher (+41.8%) by application of 75% standard dosage and 1 gram EMAS biofertilizer/plant (53.3 kg/ha) than by standard dosage of conventional fertilizer.

Key words: bio-fertilizer EMAS, corn, evaluation, pelaihari