

Peran Bakteri Penambat Nitrogen untuk Mengurangi Dosis Pupuk Nitrogen Anorganik pada Padi Sawah

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| Title | Peran Bakteri Penambat Nitrogen untuk Mengurangi Dosis Pupuk Nitrogen Anorganik pada Padi Sawah |
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| Abstract | <p>ABSTRACTThe availability of nitrogen in soil is one of the limiting factors to support growth and rice productivity. Nitrogen-fixing bacteria have ability to utilize air nitrogen so it becomes available in the soil. The use of nitrogen-fixing bacteria could potentially reduce application of nitrogen fertilizer. The aim of the experiment was to determine the role of nitrogen-fixing bacteria in reducing inorganic N fertilizer on lowland rice. The research was conducted in April-August 2012 at the plastic house of Babakan Sawah Baru Experimental Station, IPB. The experiment was arranged in randomized block design with two factors, namely nitrogen fertilizer and type of bacteria. The dosage of N fertilizer (urea), i.e. 0, 50, 75 and 100 kg N ha⁻¹. The types of bacteria, i.e. without bacteria, Azotobacter-like, Azospirillum-like, and consortium. The result of the experiment showed that N fertilization significantly affected to all variables except the percentage of empty grains per panicle, 1,000 grain weight, and N content of plant. The types of bacteria significantly affected to root dry weight, number of filled grain per panicle, greenness of leaf, uptake and content of nitrogen (shoot and grain), grain weight per plot. Consortium of bacteria were capable to reduce 25% the use of inorganic N fertilizer from recommendation doses (100 kg N ha⁻¹) that based on the value of agronomic effectiveness. Keywords: Azospirillum-like, Azotobacter-like, consortium of bacteria</p> |
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