

## **Nitrogen Fixation, Cytokinin and Exopolysachharide Production by indigenous Azotobacter spp. from East Nusa Tenggara**

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**Abstract :** Maize in some region in East Nusa Tenggara Indonesia bordering Republic Democratic of Timor Leste is important local food crop and commonly cultivated using conventional method without appropriate plant nutrition system so that productivity is still low. A way to enhance local corn yield is adding biofertilizer containing nitrogen (N<sub>2</sub>) fixing bacteria such as Azotobacter. The purpose of this research was to determine N<sub>2</sub> fixation, cytokinin as well as exopolysachharide production capacity of six indigenous Azotobacter strains in pure culture. The N<sub>2</sub> fixation capacities of native 3 day old Azotobacter strains added to Ashby Media varied from 0.01 to 0.39  $\mu\text{M/g/hour}$ . Cytokinin production of these strain in liquid culture of N-free Media was 0.11 to 40.04 ppm while exopolysachharide content in liquid culture of Vermani Media varied from 0.4 to 27.3 g/L. This results demonstrate that some local Azotobacter strains might be used as biofertilizer.

**Keywords :** azotobacter, local isolate, N fixation, phytohormone, exopolysaccharide

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