ABSTRACT

The research was undertaken to investigate the occurrence of nitrogen-fixing bacteria (NFB) and phosphate solubilizing bacteria (PSB) at peat soil in East Borneo province. Three peat soil samples were collected from different locations which were wet rice field location, yard location and peat area location. NFB was isolated by Nitrogen-Fixing Bacteria semi solid media with stab method whereas PSB was isolated by pikovskaya agar media with pour plate method. Culture was incubated 24-48 hour into temperature of 28°C. The result showed that the existence of NFB was showed by color transformation at NFB media and existence of PSB was showed by clear zone (halo) around the colonies at pikovskaya agar media. There were 3 isolates of NFB and 31 isolates of PSB which have been identified till genus. The isolate genera bacteria which had been identified as NFB were *Azotobacter* whereas as PSB were *Bacillus* and *Pseudomonas*.

Keywords: phosphates solubilizing bacteria, nitrogen fixing bacteria, peat soil, exploration.