

ABSTRACT

THE EFFECT OF NITROGEN INORGANIC SALTS TO FIBRINOLYTIC ENZYME PRODUCTION OF *Bacillus megaterium* BM 9.1 USING SOLID STATE FERMENTATION

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Bacillus megaterium BM 9.1 that isolated from the ground of Beach Ecotourism Mangrove, Wonorejo, Surabaya has fibrinolytic activity. This study investigated the effect of nitrogen inorganic salts in the production of fibrinolytic enzyme from *Bacillus megaterium* BM 9.1 using *solid state fermentations* (SSF). Of the several nitrogen inorganic salts source (i.e potassium nitrate, sodium nitrate, ammonium chloride and ammonium sulphate) evaluated for this fermentations, potassium nitrate prove to be the best. The production of fibrinolytic enzyme was measured as fibrinolytic enzyme activity index that obtain from comparing between diameter of clear zone and diameter of well. Fibrinolytic index of potassium nitrate, sodium nitrate, ammonium chloride and ammonium sulphate in nutrient agar medium was 5.60, 4.62, 4.85 and 4.75 meanwhile in agar medium the fibrinolytic index was 5.06, 4.38, 4.25 and 3.98. The production of fibrinolytic enzyme was also affected by the concentration of nitrogen inorganic salts. From five different concentrations of potassium nitrate, which was 0.5%, 1.0%, 1.5% and 2.0% obtained fibrinolytic enzyme activity 5.1, 5.34, 5.41, 5.51 and 5.21. Along with the increase of nitrogen inorganic salts concentration cause an increase in fibrinolytic activity of *Bacillus megaterium* BM 9.1. According to the result of one-way analysis of variance it can be concluded that different nitrogen inorganic salts and difference concentrations cause significant differences in fibrinolytic activity of *Bacillus megaterium* BM 9.1.

Keyword : *Bacillus megaterium* BM 9.1, nitrogen inorganic salts, fibrinolytic activity, solid-state fermentations