



EFFECTS OF CRUDE ENZYMES DERIVED TEMPEH STARTER ON QUALITY OF MAGGOT HYDROLYZATES

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Abstract. The purpose of this study was to evaluate the interaction effect of crude enzymes level from tempeh starter (TS) and time of hydrolysis on the antimicrobial activity against *E. coli*, antioxidant activity, and physical quality of hydrolyzates. The research design was a completely randomized design with a 4x3 factorial, 3 replications and an orthogonal polynomial for further test. The first factor (A) were enzymes level 0, 1, 2 and 3% (v/w). The second factor (B) were time of hydrolysis 0, 24 and 48 hours. Analisis of variance informed that treatments had significantly effect to antimicrobial and antioxidant activity ($P < 0.01$). There was an significantly interaction ($P < 0.01$) between enzymes level and hydrolysis time on the antimicrobial activity and antioxidant activity of maggot hydrolyzates. The average antibacterial activity of hydrolyzed maggot against *E. coli* was 5.42-13.08 mm and antioxidant activity was 69.60-89.10. Hydrolyzed maggots have better physical qualities (specific gravity, stack density, compaction stack density and stack angle) compared to nonhydrolyzed maggots. The best quality of hydrolyzed BSF maggots by Tempeh starter enzymes was an enzyme level of 1.5% (v/w) and hydrolysis time of 27 hours.

Keywords: fungi, antimicrobial, antioxidant, quality, hydrolysis, maggot.