# ABSTRACT

Handy Gosun (00000006240)

**ENHANCING ANTIOXIDANT ACTIVITY OF OKARA THROUGH *Rhizopus oryzae* BASED SOLID STATE FERMENTATION**

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(xiv + 32 pages, 5 tables, 13 figures, 34 appendices)

Okara is a by-sproduct of soybean processing for soymilk which is either under utilized or unutilized. One of method to increase okara utilization is by using solid state fermentation which could increase the antioxidants activity. In this study, okara were analyzed by solid state fermentation using *Rhizopus oryzae* that known to have high proteolytic activity. The research was aimed to study the most suitable condition of okara fermentation at different fermentation times (24, 36,48, and 72 h), *R. oryzae* concentrations ($3.24x10^{-3}$, $4.74x10^{-3}$, and $6.32x10^{-3}$ $g_{DCW}/g_{Okara}$), and water activity (0.913, and 0.931). The most suitable conditions were chosen based on the highest radical scavenging activity. The results showed that the most suitable conditions were 72 h fermentation, $4.74x10^{-3}$ $g_{DCW}/g_{Okara}$ initial concentration of *R. oryzae*, and 0.913 of water activity radical scavenging activity and degree of hydrolysis. Fermentation using *R. oryzae* solid state fermentation, the functional properties of okara could be enhanced.

Keyword: Rhizopus Oryzae, antioxidant activity, solid state fermentation.
Reference: 33 (1961-2017)