

FULL ABSTRACT

The Mold Growth, Organoleptic Properties and Antioxidant Activities of Black Soybean Tempe Fermented By Different Inoculums

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The quality of tempe is influenced by raw materials, processing and type of inoculum used. Black soybeans can be used as raw material for making tempe that has quality like tempe made from yellow soybeans. This study aims to determine the effect of inoculum type and duration of incubation on the mold growth, organoleptic properties and antioxidant activity of black soybean tempe. This study uses mallika black soybean varieties as raw material for making tempe. Black soybeans that have been discarded skin, soaked and steamed, then mixed with inoculum derived from pure cultures of *Rhizopus stolonifer*, *R. oligosporus* and *R. oryzae*. After it was incubated for 24, 30, 36 and 42 hours at a temperature 25 – 27°C. The parameters were used mold growth, organoleptic properties and antioxidant activity of black soybean tempe. Results showed the treatment inoculum type and duration of incubation, effect on mold growth, organoleptic properties and antioxidant activity. Mold growth increased up to 36-hour long incubation, then decreased. Panelists gave the highest value in tempe that were incubated for 36 hours. There are a tendency long incubation tempe increased antioxidant activity. The conclusion of this research has the characteristics of *Rhizopus stolonifer* relatively highest mold growth, organoleptic properties and antioxidant activity that compared to other types of mold at the old 30-hour incubation.

Keywords: tempe, black soybean and *Rhizopus* sp.