

**PD-261**

**Effect of Sterilization Dosage, Medium, and Tempeh Thickness on Physical Properties and Nutrition Value of Canned Tempeh**

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**Abstract**

Tempeh is a traditional Indonesian food obtained from fermentation of soybeans using *Rhizopus oligosporus*. Tempe is one of the main protein sources in Indonesian diet. Unfortunately, fresh tempeh has short shelf life. Even though thermal process has been applied to extend its shelf life, study on the effect of sterilization dosage ( $F_0$ ), that can be achieved by different combination of its heating time (t) and heating temperature (T), on the physical properties and nutritional value of Tempe is still lacking. The aim of this research is to study the effect of  $F_0$  level (4, 8, and 12 minutes), mediums (water, brine, and oil), and tempeh thicknesses (1, 3, and 5 cm) in sterilization of tempeh to its physical properties and nutritional values. The results show that canned tempeh has softer texture, no significant difference in slicing quality and colour, and lower pH value than raw tempeh. However, all variables ( $F_0$  level, medium, tempeh thickness) have no significant effect to physical properties. Based on hedonic test, the most preferred sample is tempeh in oil with 3 cm thickness which thermally processed at  $T=127^\circ\text{C}$  and  $F_0=4$  minutes. This product has 51.98% water content, 1.04% ash content, 34.97% protein, 60.55% fat, and 2.32% of carbohydrate. The total daidzein and total genistein in 100 g of the canned tempeh are 2.40 mg and 2.95 mg, respectively.

*Keywords: Tempeh, thermal process, physicochemical properties*

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