TEMPEH OBTAINED WITH YELLOW AND BLACK SOYBEAN GRAINS


Tempeh is a traditional fermented soybean food from Indonesia. Processing soybeans into tempeh by fermenting with the fungus *Rhizopus microsporus* var. *oligosporus* improves the texture, flavor, aroma of the product and the nutritional value by increasing the availability of isoflavone aglycones. To optimize the processing of tempeh is important to evaluate the content of isoflavones present in the different soybean grains cultivars and the fermented product obtained. Isoflavones may undergo changes in quantity and profile depending on the processing conditions. The aim of this study was analyzed the isoflavones profile, determined by ultra performance liquid chromatography (UPLC) in the yellow and black soybean grains and in the tempeh obtained from these grains. Tempeh was produced by hidratation of soybean grains during 12 hours, cooking at 30 minutes and fermentation at 24 hours and at 37 °C. All experiments were performed in triplicate. The yellow soybean grains had a higher content of glycosides daidzin and genistin and their malonyl corresponding forms. The yellow soybean tempeh showed a higher content of daidzein and genistein. The total isoflavones contents observed in the yellow and black soybean grains are 106.6 mg/100 g and 65.3 mg/100 g respectively. Therefore, for a higher nutritional value tempeh is recommended to use the yellow soybean grains.