Enhancement of GABA and phytosterol contents by *Lactobacillus plantarum 22* on the fermentation of Sangyod rice

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Development process of increasing nutrition of Thai rice brown cultivar for food consumption was conducted by fermenting Sangyod rice with *Lactobacillus plantarum 22* isolated from traditional fermented vegetable. The nutritional values of gamma amino butaric acid (GABA) and phytosterols from fermented Sangyod rice incubated at 37 °C for 0, 6, 12 and 24 h were determined using high performance liquid chromatography (HPLC) and gas-liquid chromatography (GC). Results showed that, the highest GABA was 2.39 mg/100 g at 6 h which increased about 6.3 fold, compared control. It was also found that the main phytosterols (ß-sistosterol, Campesterol and Sigmasterol) of fermented Sangyod rice increased about 2.48, 9.5 and 3.49 fold, respectively, compared to control. The highest values were found at 24 h, ß-sistosterol (9.41 mg/100 g), Campesterol (0.19 mg/100 g), and Sigmasterol (0.22 mg/100 g). The present study indicates that *L. plantarum 22* has great potential for the enrichment of GABA and phytosterols in rice fermentation.

Keywords : *Lactobacillus plantarum*, GABA, phytosterols, rice, fermentation