ABSTRACT

EFFECTS of VARIOUS COOKING PROCESS of *Lablab purpureus* (L.) on PHYTOSTEROL COMPOSITION ANALYZED BY FLAME IONIZATION DETECTOR CHROMATOGRAPHY and MASS SPECTROMETRY

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The aims of this study were to investigate the effects of various processing methods between raw and processed dolichos beans (*Lablab purpureus* (L.)*)* by boiling, steaming, frying, and roasting, on the composition of phytosterol contained in beans. The cooked beans were extracted with *n*-hexane, acetone and chloroform. The results of the extract were analyzed using TLC, GC-FID and GC-MS. The results of GC-FID analysis showed that steaming process was showing composition of stigmasterol, campesterol, and sitosterol. In the boiled, fried, and roasted dolichos beans, only stigmasterol was detected. However, stigmasterol and sitosterol were detected in the raw beans. The result of SIM (Selected Ion Monitoring) mode of GC-MS analysis on *n*-hexane extract of the raw and boiled beans showed the same phytosterol composition (stigmasterol, campesterol, cholesterol and sitosterol), but there was a significant difference of area in phytosterol between raw and boiled ones. Overall, the higest area of phytosterol compounds was in raw beans. Campesterol found in raw beans but it was not detected in the boiled beans. Based on Kruskal Wallis analysis showed the different processing effects on phytosterol in dolichos beans. Cooking process will affect the composition of phytosterol.

Keyword : *Lablab purpureus* (L.), phytosterol composition, cooking process, GC-FID, GC-MS