Utilization of Upland Rice in Food Products

Abstract

Rice has decreased in role to Thai’s economy, assembly with economic downturn so the amount of rice export has continuously decreased. A price market invention also urged a decline in the value of rice exports. The objective of utilization of upland rice flour in food products is to replace upland rice flour into butter cake, butter cookie, cotton wool cake (pui fai), pa thong koo, and noodle. Upland rice was milled through wet-milling process and performed chemical analysis. The chemical compositions of upland rice consisted of moisture 11.4 %, protein 7.04 %, fat 3.2 %, ash 0.93 %, and total carbohydrate 77.43 %. Upland rice flour was used in replacing wheat flour in bakery and noodle products. From consumer survey butter cake (hedonic score 8), butter cookie (hedonic score 7), pa thong koo (hedonic score 7), and noodle (hedonic score 7) had tendency to be accepted at 50 % upland rice flour substitution level. Only cotton wool cake (hedonic score 8) produced better result as the upland rice flour substitution level reached to 75 %. Physical analysis of the products was determined through texture analyzer. Composite flour butter cake and cotton wool cake had firmness of 569.45 g and 285.34 g, and springiness of 43.93 % and 58.90 % respectively. For composite flour butter cookie, it had fracturability of 41.42 mm and hardness of 1685.41g. Brittleness of 20.00 mm and hardness of 558.25 g were belonged to pa thong koo. The last product was noodle which had elasticity of -17.30 mm and stickiness of -5.95 g.