

**Title** Sugar palm seed (*Arenga westerhoutii* Griff.) in Thailand: Nutritional composition and product development

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### Abstract

Sugar palm seed (*Arenga westerhoutii* Griff.) is a native wild plant naturally found in the north of Thailand. This study was aimed to determine the nutritional compositions and develop a low sugar-sugar palm seed jam to be a healthy product. Results showed that the seeds collected during April, 2009 from six villages in Nan province are a good sources of protein and crude fiber (22.91 and 7.63 %w/w-dry weight basis) with lower in fat content (0.54 %w/w-dry weight basis) than other palm fruits. The exhibit energy level is in the range of 36.50 - 61.90 kcal/100g. In addition, the study was carried on dietary fiber in the seeds collected during June, 2012. Soluble dietary fiber (SDF) was found in the range of 4.17-11.15 g/100 g and total dietary fiber (TDF) in the range of 5.43-15.20 g/100 g. These results revealed that sugar palm seed shows the potential as health food for human diets. Therefore, a formulation of low sugar-sugar palm seed jam was developed. Mulberries was added in the ratio 1:10 for improving color and flavor. Sugar was reduced to 25, 35, 40 and 50% from the original formula and sucralose was used as a sweetener. Quality in terms of spread ability, pH, total soluble solid (TSS), total plate count (TPC), coliform, *Escherichia coli* (*E. coli*), yeast and mold and sensory evaluation was determined. The pH of all formula was between 3.12-3.00. TSS decreased regarding to percentage of reduced sugar. Forty percent of reduced sugar formula had the highest spreadability and overall acceptability score which was significant different from other formulas ( $P < 0.05$ ). TPC, coliform, *E. coli*, yeast and mold of all formulas were in accordance with Thai Industrial Standards. Low sugar-sugar palm seed jam will be an alternative healthy product for the health conscious consumers.