Utilization of Sago Flour in Gluten-free Food Products

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Abstract

A gluten-free (GF) diet is currently the only treatment for celiac disease. This disease is triggered by genetic factors, and ingestion of gluten found primarily in products containing wheat may result in lesions in the intestinal lining and lead to nutrient malabsorption. Sago is GF; hence, its potential as part of a GF flour blend was evaluated in selected food products, namely, cookies, pretzels, and tortilla. Flour blend tests showed that the preferred ratios were the following: for cookies, 50% sago: 50% cassava flour; for pretzels, 50% sago: 50% rice flour; and for tortilla, 40% sago: 60% nixtamalized corn flour. Consumers' rating of overall acceptability of the products ranged from "like moderately" to "like very much." Proximate composition differed from wheat-based counterparts; notably, protein content was lower since sago flour is mostly carbohydrates. However, an advantage of sago flour is its antioxidant content. Total phenolic content determination showed 2.81 mg gallic acid equivalent (GAE) per gram of cookies and 4.07 mg GAE/g of pretzels. Like other GF products, the texture of the dough and the final products was problematic. The dough was difficult to form, and products were denser and crumbled easily after one to two days of storage. Further studies need to be done on the use of dough conditioners or other additives that may improve the products' texture.