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# CHEMICAL AND SENSORY EVALUATION OF SABLE AND TULUMBA FORTIFIED WITH QUINOA POWDER FOR CELIAC PATIENTS

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Celiac disease is a serious genetic autoimmune disease. It is induced by consuming a protein called gluten, which is found in wheat, barley and rye. When people with celiac disease eat foods containing gluten, their immune system responds by damaging the finger-like villi of the small intestine. Various types of natural protein - rich ingredients are added into bakery based products to improve their protein content for health promotion. The aim of this study is to develop bakery products fortified with quinoa powder (QP) and to evaluate the effects on chemical properties and sensory acceptability. Dried quinoa powder was used to substitute rice flour in *Sable* and *Tulumba* (*Balah Al Sham*) formulations at different levels (0, 10, 20 and 30%). Chemical analysis and sensory evaluation were performed then, a comparison between the different ratios of QP (added) to mixture were investigated. The present results showed that (QP) had significantly increased protein contents of both *Sable* and *Tulumba*. As for the sensory evaluation, both of *Sable* and *Tulumba* scored the highest score of 20% level.

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