

## Investigation on using of sorbitol, isomalt and whey powder for producing chocolate muffin

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**ABSTRACT:**

In the present study, physicochemical, textural and sensory properties of chocolate muffin cake were evaluated by substitution of sucrose with different levels of sorbitol and isomalt and flour with different levels of whey powder in the cake formulation and tests were done in three repeats. In this study, there were two stages, in the first stage, two levels of whey powder (30 and 40%) was used in the formulation and the different properties of produced cake were determined. According to obtained results from this stage, the level of 30% was selected as the best level. In the second stage, there were 5 substitution levels of sugar with sorbitol and isomalt: 0% (A), 4% sorbitol+4% isomalt (A<sub>1</sub>), 8% sorbitol+8% isomalt (A<sub>2</sub>), 8% sorbitol+4% isomalt (A<sub>3</sub>), and 4% sorbitol+8% isomalt (A<sub>4</sub>). Experiments were performed in a factorial form in a completely randomized design. The results showed that the substitution of sorbitol and isomalt instead of sucrose has significant effect on the percentage of moisture and carbohydrate in muffin. By increasing the percentage of sorbitol and isomalt in cake formulation, it was discovered that the moisture of the product were increased meaningfully, but carbohydrate was decreased. The texture analysis of muffin treatments showed that the highest amount of hardness was in treatment of 8% sorbitol+8% isomalt (A<sub>2</sub>). By increasing storage time, the amounts of hardness were increased. Finally, sensory evaluation results of five muffin cake formulations indicated more acceptance of prepared treatment of 8% sorbitol+4% isomalt (A<sub>3</sub>). Totally, prepared muffin by using 8% sorbitol+4% isomalt can be introduced as the best treatment.

**Keywords:**

Isomalt, Muffin, Sorbitol, Whey protein.