

Using sugar replacers in technology sponge cakes

Viktorya Dorohovych¹, Asyat Abramova¹

National University of Food Technologies¹, Kyiv, Volodymyrs'ka st., 68, dora@nuft.edu.ua, asyag_a@ukr.net

ABSTRACT

Today the actual direction of the confectionery industry is the development of products reduced calorie and reduced glycemic index. Among the wide range of confectionery are very popular sponge cakes.

Traditional sponge cakes made from sugar have relatively high glycemic index and calorie content. To reduce glycemic index and caloric content of products and providing special purpose we used sugar replacers: izomaltitol, erytritol, maltitol. During the development of sustainable technologies sponge cakes using these sugar replacers, we found that they differently affect the structural properties of sponge cakes dough and heat treatment process.

It was determined that the mix of egg-erytritol has a high ability to form foam (22% more than the mix of egg-sucrose), but less foam stability. A mixture of egg-izomaltitol characterized by the lowest among the studied polyols, ability to form foam, but foam stability is maximal. To increase the foaming mixture of egg-izomaltitol and improve the stability of the foam egg erytritol we applied the method of preparing the warm dough.

When determining the structural properties of sponge cakes dough on maltytol, isomaltitol, erytritol, where it proposed making rational way, density and degree of dough destruction of its structure differs slightly.

Sponge cakes products based on erythritol are characterized by low specific volume, solid crust and have cooling taste. In order to improve the structure and organoleptic properties sponge cakes from erytritol determined that it is expedient to reduce the temperature of heat treatment products.

Sponge cakes based izomaltitol, erytritol, maltitol which have been produced for developed technologies, had good organoleptic characteristics and structural parameters of traditional sponge cakes based on sugar.

KEY WORDS: sugar replacers, glycemic index, sponge cakes, , technology

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