FRUIT AND JELLY MARMALADE MASSES WITH GLUCOSE

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The article actualizes the question of confectionery production with glucose. The problem of the glucose crystallization in the products such as fruit and jelly marmalade is considered. It is noted that for the studied mass the phenomenon of crystallization starts at 2 – 3 days of storage. With the increase of the crystallization area the speed of the process increases. This is a negative factor in determining the organoleptic qualities of marmalade and prevents its consumption.

It is determined that preventing this phenomenon is possible by combining two technical factors: a decrease of the solution’s degree of saturation (by decreasing recipe prescription glucose) and adding anticrystallizers.

It was determined that the decrease of glucose increases strength of agar gels, because of the convergence of macromolecules and emergence of additional bonds between them. Also it reduces the strength of pectin gel, which needs glucose as an essential gelling factor. Reduction the amount of glucose slows down the crystallization and combined with anticrystallizer’s properties of treacle completely prevent it. It is established that the best result is achieved by using maltose treacle with high maltose and low glucose content. Taking into account the results obtained by optimizing the recipes for agar jelly marmalade and apple marmalade.

The results were used to optimize the recipes of agar jelly marmalade and apple marmalade. As the optimizing criteria and factors (input controlled: amount of apple puree or agar in recipe; recipe amount of glucose, recipe prescription amount maltose treacle; output: strength of marmalade mass, organoleptic characteristics). So, the best recipe ratio of components was obtained. The optimal quality of the finished product was reached.

Keywords: agar, pectin, gelling, crystallization of glucose, fructose, marmalade mass, jelly marmalade, fruit marmalade.