

16. INFLUENCE OF COLD FRUIT POWDERS SPRAY DRYING ON QUALITY OF FONDANT MASSES

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Today fondant masses are widely used in institutions of restaurant and food industry. But they have a low nutrition value and high sugar content and caloric content that is a subject of researches of scientists and practitioners. For enrichment of foodstuff on the basis of fondant masses it is necessary to use fruit powders as a concentrate of biologically active connections. Fondant mass is a heterogeneous system consisting of three phases (solid, liquid and gaseous). The solid phase is sugar crystals, small and different in sizes which are evenly distributed in oversaturated sugar - treacly syrup, which is a liquid phase. The composition of the liquid phase depends on the recipe and can include sucrose, molasses solids, invert sugar, etc. The gaseous phase – is insignificant amount of the air coming to fondant mass in the process of beating.

Considering it, the studying of cold fruit powders spray drying influence on organoleptic and physical and chemical indicators of quality of fondant masses is the purpose of the researches presented in this paper. As to materials for fondant masses enrichment powders of orange and strawberry obtained by cold spray drying have been chosen. These powders have high organoleptic properties - namely, specific taste and flavor.

Among functional and technological properties it should be noted high dispersion and moisture-holding ability. The color characteristics of fruit powders were determined by computer colorimetry.

In fondant masses moisture content was studied, which was determined by refractometric method; fractional composition of crystals -by microscopic method using the micrometer eyepiece and Goryaeva camera; reducing substances content – by feritsiation method.

At the first stage of research the color characteristics of fruit powders was

studied. It was found out that in the restored state the powder shows more intensive colourings, than in the native dry state. Considering formations of color in a ready fondant mass as dispensing it is chosen 7.9 and 11% of powder from oranges and 3.5 and 7% of powder from strawberry in the mass of prescription mix. The moisture share in control samples and prototypes was identical. Organoleptic and physicochemical parameters of quality control of fondant mass have been studied. It is shown that taste, smell, color and consistency were the best among the prototypes at a dosage of 9% of the orange powder and 5% of powdered strawberry.

This microscopic method shows that fractional composition of crystals of sucrose in the mass was close to the control sample, and the content of reducing substances - a little less.

As a result, studies have shown that fruit powders from oranges and strawberries can be used to improve the quality and nutritional value of fondant mass.

References:

1. Pavlov A.V. Collection of recipes of pastry and bakery products for catering. - St. Petersburg: Gidrometeoizdat, 1998. - P. 47-48.