INFLUENCE OF LEADING BUCKWHEAT FLAKES INTO RICH DOUGH FOR BISCUIT ON ITS RHEOLOGICAL PROPERTIES

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Rheological properties of dough are the important technology factor influencing stability of operating dough distinct modes of the equipment and quality of finished goods [1].

The work purpose is research of influence of buckwheat flakes maintenance on rheological characteristics of rich dough for nut biscuit.

According to an object in view problems have been defined: research of influence of buckwheat flakes maintenance on change rheological characteristics and decrease character of effective viscosity of rich dough depending on increase of speed of shift; definition of a rational dosage of buckwheat flakes instead of nut raw materials at preparation of rich dough for biscuit.

Rheomeasurement of dough samples prepared on a compounding of rich biscuit "Nut" spent with addition of buckwheat flakes with replacement of a nut component in number of 20 %, 40 %, 60 % and 80 % on rotational viscositymeter "Reotest-2" in a range of speeds of shift from 0,167 to 13,5 c^{-1} at temperature 26,5 ºС.

The analysis of experimental data and character of curvature of schedules $\lg\theta = \lg\theta(\lg D)$ have allowed to choose rheological equations of a condition of rich dough for nut biscuit samples following kind [2]:

$$\theta = \mp\frac{(\theta_o)^2}{\theta} + kD^n;\ \theta = \pm\frac{(\theta_o)^2}{\theta} + kD^n,$$

where θ - tangent pressure of shift, Pas;

θ_0 - limiting pressure of shift, Pas;

k – consistence factor, Pas·s^n;

D - speed of shift, s^{-1};

n – current index.

Thus it was found, as a result of our research, limiting pressure of shift θ_0 and consistence factor k at increase go down in a dosage of flakes to 40 %, and at the further increase to 80 % - raise. The current index n at first raises, and at introduction of buckwheat flakes over 40 % - goes down.