

INFLUENCE OF MOISTURE WHEAT DOUGH TO CHANGE ITS RHEOLOGICAL CHARACTERISTICS AND QUALITY OF THE BREAD

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Technology at the Department of bakery and pasta industries MGUPP has established optimum consistency wheat dough after mixing, defined by the device "Farinograf E " - a 640-650 FU, allowing the one hand, to get the best quality of bread, but on the other - the ability to set water absorption flour based on recipes kneading the dough.

In this case, we found out that for the same consistency of the dough at the time of its readiness for mixing quality bakery products to receive different. Therefore, the assumption was made that the value of this parameter as the value of the torque on the drive mixers bodies can be used not only to determine the ability of water absorption flour and the optimal dosage of water in dough, but also to predict the quality of bakery products in conjunction with measurement of the complex rheology of the test, such as: viscosity, elastic modulus, stress relaxation time, the relative deformation, etc.

Therefore, the purpose of this study was to examine the influence of baking properties of wheat flour to change the rheology test after batch, subject to it with the same consistency - integrated rheology - 640-650 FU.

For this study three instruments were used: Do-Corder DCE-330 (which allows to determine the change in consistency of the dough during the kneading, fix the time of its readiness and to adjust the amount of mechanical energy expended in forming the structure of the test), Strukturometr ST-1M (which allows to determine the complex rheology of wheat dough after mixing) and Rheotest 2.1 (which allows to determine the effective viscosity of wheat dough after mixing).

On the basis of this study was confirmed the optimum consistency of the dough, which is equals to 640-650 FU, which allows to determine the ability water absorption flour because of its baking properties of dough and recipes, as well as accurately set the dosage of water required for dough. The influence of humidity test: the duration of his kneading until tender; the amount of mechanical energy expended in forming the structure of dough during mixing and to change the unit of rheological characteristics of wheat dough.

The best quality of finished products obtained by the integral values of the rheological characteristics - torque on the drive mixers of the time ready for kneading the dough - 640-650 FU, which corresponds to the effective viscosity of the dough - 1197 Pa * s, the share of immediate and long-term stress relaxation: K1 - 0.57, K2 - 0.25 and the proportion of residual stress K3 - 0.18, the rate of instantaneous and long-term relaxation of mechanical stresses: λ_1 - 0,571 s⁻¹; λ_1 - 0,036 s⁻¹.