RHEOLOGY OF WHEAT AND RYE DOUGH WITH VEGETABLES ADDITIVES

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In technological cycle of bread manufacturing with vegetables additives dough kneading is one of the most important operations. During dough kneading takes place forming of it's rheological properties, which influence then forming of structure of finished products. Conditions of this operation and dough rheology parameters formed during kneading will have an influence on running of all following operations by bread production, like dough fermentation, forming of dough pieces, their proofing and baking.

Influence of such dough components like vegetables additives and mechanical effect on dough of mixing blades of mixer predetermine curtain rheological properties, such as elastic and plastic deformations.

For determination of wheat and rye dough with vegetables additives rheology behavior after kneading we have developed special method, based on tangential displacement plate (plano-parallel gap is located vertically). Before such investigations were performed using devices of S.J. Weiler and P.A. Rebinder. We used in our work information-measuring system based on device Structurometr ST-2 [1,2].

The method for determination of values of rheological properties of wheat and rye dough with vegetables additives, developed by us, allows to determine maximum tension of displacement as well as modules of elasticity (E_1, E_2, E_3), coefficients of dynamical viscosity (η_1; η_2) e.t.c. [2].

We determined rheological properties by analysis of curves of relaxation of mechanical tensions, occur during deformation of analyzing doughs.

On the basis of these experiments were determined rheological properties of wheat and rye dough with vegetables additives.