

RHEOLOGICAL PROPERTIES OF WHEAT DOUGH AT APPLICATION POWDER MARINE SEAWEED OF LAMINARIUM

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According to key points of the Concept of the State policy in the field of a healthy feed of the population of the Russian Federation, one of priority directions of progress of the food-processing industry is creation and a consecutive increase in a food allowance of consumption of the bakery products prepared with use of various functional components, including «marine seaweed» and their products of processing - powders of marine seaweed (PMS) the certain biological types, such as the laminarium, a angustata and a fukus.

Organic connections of iodine, first of all salts and complexes of an alginic acid, more quickly, than equivalent quantity of iodide sodium, assist normalization of function of a thyroid gland.

And it is possible to explain it not only iodine, but also a content in marine plants important for exchange processes micro- and macrocells (molybdenum, copper, cobalt, and others) and vitamins. Mineral substances of seaweed basically (75-85 %) are presented by water-soluble salts chlorides and sulfates, basically calium and sodium.

Reological properties of a semifinished item and ready bread are the most important characteristics which allow to understand processes, at addition of a functional component.

On faculty of breadmaking and pasta manufacture of Moscow State University of food production have been carried out the researches showing dependence between quantity of the added component and reological properties of the wheaten dough. In experiments used wheat flour of 1 grade.

Dough water of constant quantity and additions of a powder marine seaweed of laminarium up to 1 % with step of 0.125 % and 1.5 % got mixed up from a flour. The consistence of each parts dough was defined by means of device "Farinograph".

Apparently from data base, with an increase of a content marine seaweed of laminarium the dough there is a gradual increase of its consistence. So, at an increase of a content marine seaweed of laminarium with 0 up to 0.875 % its consistence increased with 520 up to 640 items of farinograph, that is on 23 %. Also the width of a curve of farinograph function during stability of the dough that refers to as elasticity of the dough increases. This increase occurs with 60 up to 100 items of farinograph, at the content marine seaweed of laminarium 0 % and 0.875 % accordingly, that is about on 67 %. Means, on character of variation of the consistence depending on a content marine seaweed of laminarium can be made the assumption of its optimum size equal of 0.875 %. The expediency of application of the most widespread biological type of marine seaweed – laminarium is proved, at preparation of functional bakery products.

On the basis of studying reological properties of the dough use of powders of marine seaweed (PMS) as structureformer and the stabilizer of properties of the dough and quality of bread from wheat flour, as well as a basic food functional component is proved, causing its diet properties, - that does application PMS in a baking production especially actual.