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SOME ASPECTS OF IMPROVING THE TECHNOLOGY OF BREAD

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Cereals and almost all their derivates lie at the basis of human nutrition. The bread and the bread industry products belong to the human alimentary behaviour throughout all the stages of his life. To satisfy the consumer's taste, the producers have approached an array of products. The various products range is obtained either by auxiliary variants or by altering the value of the operational parameters. All the choices adopted are related to the classic traditional technology.

There are kinds of bread with additions which have the mission to complete its nutritive value and of reducing its energy value. Thus it is intended to apply a social treatment, meaning a discrete alimentation with microelements and fibres to the population where a general absence isobserved. However, the consumer, in his traditionalism, desires that bread should remain bread, and one with very good taste qualities, with a good aroma, smooth and uniform porosity, large volume.

The classic technology has suffered alterations when it comes to preparing the dough. There are substances which are added in very small quantities as compared to the raw material, which are called additives and substances which are added in larger quantities and which are considered to be auxiliary materials. By refining the raw material – the wheat – the flour, depending on the extraction degree, is deprived of certain elements of high biological value.

This deficit can be made good by different additions. In order to make good the deficits related to the technological characteristics of the flour, such as a low capacity to form gases, a low capacity to retain these gases, medium and low power, low hydrating capacity. Herbal extracts and powders native plant raw materials are an indispensable assistant in solving this kind of problem that has repeatedly shown the results of our research. They are able not only to align the biological balance, but also to improve the organoleptic properties of bread and to extend the duration of the newness of the bread.

Stinging nettle is a powerhouse of nutrients. It contains on average 22 % protein, 4 % fats, 37% non-nitrogen extracts, 9-21 % fiber, and 19-29 % ash. The leaves contain about 4.8 mg chlorophyll per gram of dry leaves. The leaves contain vitamins A, C, D, E, F, K, P, and b-complexes as well as thiamin, riboflavin, niacin, and vitamin B_6, all of which were found in high levels, and act as antioxidants. The leaves are also noted for their particularly high content of the metals selenium, zinc, iron, and magnesium. They contain boron, sodium, iodine, chromium, copper, and sulfur. They also contain tannic and gallic acids, gum, and wax.

We used dry nettle powder with a particle size of 20-30 microns. The first stage of research was to study the possibility of using dried nettle on the activation step pressed yeast, because a high content of vitamins and minerals can be enhanced technological properties of pressed yeast,. Such an approach would minimize the potential negative effects on the organoleptic properties of such non-traditional plant raw materials like nettle powder. Activation of yeast was performed according to the conventional technology in the production of bakery technology, we added the nettle powder in an amount of 1, 3, 5% by weight of the flour in welding. We found direct correlation between the increase of the total biomass of compressed yeast in the range of 10-25% (compared to control) the number of insertion nettle powder. When this was an increase in gas production in the semi-finished product to 25-65%, titrated acidity on 1...2 degrees. These results require more in-depth study of the mechanisms occurring in the future will allow to reduce the time of activation or compressed yeast using nettle powder, or a reduction in the amount of the production of bakery products.