



The influence of sucrose addition on the fermentative activity of compressed yeast and on the quality of bread obtained from weaker-average flour quality in breadmaking

Daniela VOICA - "ROMPAN", The Romanian Employers League Of The Milling, Breadmaking and Flour Products Industry

Georgiana Gabriela CODINĂ - "Ștefan cel Mare" University Suceava

In the dough, carbon sources are constituted of flour glucides represented by small quantities of glucose, fructose and sucrose. Glucose and fructose can be directly metabolised as they are diffused through the cellular membrane. There is a greater preference for glucose, which is the first to be used in the dough. By decreasing the glucose concentration, the yeast uses the fructose in the dough. The sucrose pre-existent in flour or which is added in dough composition is hydrolysed to glucose and fructose by yeast invertase. The monoglucides formed diffuse in the cytoplasm afterwards, where they are metabolised. Yeast invertase is very active. It hydrolyses the sucrose in the first minutes of mixing; therefore, at the end of this process, the dough only has glucose, fructose and maltose. The introduction of sucrose in the dough is a very common practice in bakeries. By introducing this type of diglucid in the dough, we deal with an increase of fermentable glucid quantity. As a consequence, yeast activity is accelerated. The process occurs until a maximum degree of sucrose is added; afterwards, yeast activity is inhibited. This is why we thought it would be interesting to analyze, in this paper, the way in which an addition of 1.7-3% sucrose added influences the fermentative activity of compressed yeast and bread quality. In order to evaluate the fermentative activity of yeast, we used the device SJA fermentograph and for the evaluation of bread quality, baking tests were carried out. The products have been appreciated from the point of view of the specific volume obtained. Both from the point of view of the fermentative activity and from the point of view of baking samples, the best results were obtained for 2-3% sucrose introduced in the dough obtained from a low-medium quality type of flour used for breadmaking. For the evaluation of the fermentative activity, the SJA device was used.