



The TAGUCHI method used in improving the quality costs in bakery Industry

STROE S.G. - "Ștefan cel Mare" University Suceava

Among the quality instruments we dispose of at present, the experience plans are the most powerful to define the optimum levels of factors tested in order to reduce the dispersion of characteristics regarding the functioning of a product or manufacturing process, and then its adjustment to the desired target values. The Taguchi method carried out by dr. Genichi Taguchi makes appeal to the techniques of quality engineering which also includes control statistical methods together with quality management ones. Most attention of Taguchi method focuses on the statistical elements of the procedure. The experimental planning has been a major concern of his research activities. Taguchi experience plans have brought significant contribution to the success of Japanese industry, especially in the field of quality, thus becoming for more than 20 years the world leader in terms of quality and competitive costs as well. The method consists in identifying the combinations of parameters which reduce the factors' effects, without the latter ones being directly attacked. Taguchi uses the word „noise” for any cause of variation in the process functioning, other than that established by the user. The use of experience plans allows a great decrease of the experience number to be achieved in order to identify coefficients of a model. Genichi Taguchi settled an original method which allows, starting from a few standard tables, to solve easily the most part of the industrial problems in terms of experience plans. The paper focuses on optimization of white bread manufacturing process; the parameter in view is the core moisture after baking. After having established the factors influencing the process, we have calculated for each factor its effect upon the system response (the core moisture) and the response value as interaction between factors. The graphic representation analysis of medium effects of factors and interactions between them provides us with the answer regarding the method to be used in the baking process optimization.