**STRESZCZENIE PRACY W JĘZYKU ANGIELSKIM**

Name and surname of the author of the dissertation: Agnieszka Leszczuk-Piankowska, BEng, MSc Name and surname of the dissertation promoter: Piotr J. Bykowski, BAgrSc, MSc, PhD, DSc, ProfTit, Professor

The subject of the doctoral dissertation: **"Evaluation of the influence of selected technical and technological factors on the sterilization process parameters of canned fish".**

The aim of the work was to establish safe and at the same time economically effective conditions for thermal sterilization process of canned fish for the needs of the selected production plant. The doctoral dissertation deals with the issue of assessment of the impact of selected technical and technological factors on the parameters of the process of sterilization of canned fish.

The work consists of two parts, the first one includes the introduction and review of the literature, the experimental part contains the results of the research and conclusions resulting from them. The first part presents the history of the development of the thermal sterilization process, discusses the legal aspects of this process and issues related to the microbiology of preserved food, describes the effect of thermal sterilization on the organoleptic quality and nutritional value of canned fish as well as a description of autoclaves currently used in the fish industry. The third chapter contains the purpose of the work and the hypothesis of the research, and in the experimental part the conditions for research, results and conclusions are described.

Research on thermal sterilization processes of canned fish was carried out in a water-spray autoclave in industrial conditions. The research material was canned fish of various raw materials in various types and capacities of packaging. For the study of temperature changes and sterilization value F0 in measuring cans and temperature in the heating environment, ELLAB A / S measuring equipment was used (Denmark). The course of heat sterilization

processes was examined using two types of tests, i.e. a distribution (temperature distribution) test in the autoclave tank and a heat penetration test in the measuring cans.

Based on the developed methodology, tests were carried out on the correctness and effectiveness of the model processes of thermal sterilization. In the first stage of the work, the temperature distribution in the autoclave tank was determined and the coldest area was determined in the basket, located in the autoclave tank, in which the canned food heated the slowest. In the second stage of work, the effectiveness of the thermal sterilization process was examined. The influence of selected technical and technological factors on the course and efficiency of the thermal process of sterilization of canned fish, such as the method of loading canning into sterilization baskets, initial temperature and location of canned food in a sterilization basket, types of pickle or sauce was examined. During the interpretation of the results, statistical tests and MS Excel spreadsheet were used. Based on the obtained results, the analysis of the production efficiency of the sterilization process of canned food to the sterilization baskets using the chaotic method and the ordered method was made.

In the final part of the work, 5 main conclusions from the research were included and the obtained results allowed to achieve the goal set at work. Determined safe and cost-effective conditions for the thermal sterilization process for canned fish were implemented at an industrial plant in Poland. The research results open possibilities for other producers to improve the processes of sterilization of canned fish in order to increase the level of safety and quality of manufactured food, as well as to improve the economic efficiency of production. *Key words: canned fish, thermal sterilization, sterilization value F0*