нанорівні шляхом утворення більш досконалих кристалітів. Формування орієнтованих макро- і мікрофібрилярних структур обумовлюють набуття ІПД-модифікованими ПЛА і УБТФ унікальної комбінації високих міцності та пластичності. Виявлено також, що структура ПЛА та УБТФ, сформована в процесі ІПД, має високу термічну стійкість, забезпечуючи збереження підвищеного рівня властивостей навіть після тривалих відпалів за температур, близьких до температури плавлення, що зумовлено створенням щільної сітки фізичних вузлів, яка сприяє підвищенню стійкості деформованих полімерів до термічного впливу.

DIRECTIONS OF TECHNICAL EQUIPMENT OF COMBINED CLEANING PROCESS OF MUTUAL SUB-PRODUCTS

Horielkov D., PhD in Tech. Sc., Assoc. Prof.,
Chapliun D., Master Student,
Kharkiv State University of Food Technology and Trade
Mutazakki M., Director UC "MMF", Morocco

The meat products market is one of the largest markets for food products. One of these commodity groups is byproducts. By nutritional value, many byproducts are not inferior to meat, and if they contain vitamins and trace elements even exceed them. In this regard, food byproducts occupy an important place in human nutrition, therefore the production of them is an attractive direction for the development of the meat industry in general. The considerable popularity of offal products among domestic consumers is due to the low cost of products from them and availability to a wide consumer sector.

One of the types of raw materials that was mostly not processed in the meat industry is the esophagus of cattle and pigs. At enterprises specializing in processing of meat raw materials, this category of by-products is either not processed altogether or processed for the help of equipment which conditionally provides for its treatment with the obligatory further processing in hand. There is no specialized equipment for the treatment of the esophagus at present and it is connected with a number of problematic issues of a technical nature: manual cleaning; low productivity; damage to the shell during processing; lack of specialized equipment

The initial stage of the mechanization of the esophagoplasty process is to conduct analytical studies of the developed equipment for the processes implemented in these devices. It is necessary to consider the

morphological properties of the esophagus and to determine the effect of morphological parameters on the effectiveness of the purification process. On the basis of the conducted researches to offer the design of the device for cleaning the esophagus. Thus, the substantiation and development of the resource-saving process of cleaning the esophagus and its device design is an actual scientific and technical task, the solution of which will solve a number of technological issues, and will provide an economic and social effect.

Analyzing the modern equipment of the process of cleaning the esophagus, it is evident that most equipment is represented by domestic producers, has insufficient functionality for modern production and can not compete with foreign developments. On the domestic space, the hardware design of the process of cleaning the esophagus is quite distinct. This is due to a number of factors, one of which is the lack of comprehensive studies of the esophagus clearing process. For realization of the process of cleaning the esophagus, as possible for modernization, the following settings were considered: a picking machine of the type CM-3, SHMK-2; pistol crushers K6-FOK-2-K-02, FOC-B-02; universal machine FOC; installation of the G6-FCC; centrifugal car MOS-1C; installation of G6-FSA; line K6-FLK, LOSS; current-mechanized line FOC-B, FOC-K-S. These settings to a certain extent implement the process of cleaning the esophagus from the shells, but they have a number of disadvantages that limit their use in small enterprises, including: the use of manual labor during the technological process and the unloading of the product; durability of the processing process; the need for re-processing; irrational use of resources, leading to increased energy costs; low-powered equipment; Inaccurate adjustment of parameters can lead to poor quality processing, or damage; cumbersome and complex design, which forces to constantly involve the installation of the worker.

Therefore, for the possibility of using compact facilities for purifying the esophagus at enterprises of different directions and power, it is necessary to design the plant taking into account the technical shortcomings of the analogues.

To construct a fundamentally new model of the device for cleaning mucous membranes, it was necessary to conduct an analysis of the technological process of separating the serous membrane from the parenchymal part. The process of treatment of the esophagus consists of two successive stages, which are implemented one after another: the first stage is the removal of the mucous membrane, the second stage is the removal of the serous membrane by a mechanical method. The development of a new technical solution consists in combining the processes of cleaning the

product from the mucous membranes and the serous membranes in one apparatus and automating this process. Application of synergistic effect will allow to make a compact design that will reduce the number of required personnel, reduce the time of the technological process, using the conveyor, improve the quality of products and reduce the cost of manufacturing equipment. Thus, the set of proposed features allows to provide the expected technical result.

IMPROVING THE PROCESS OF PREVALENCE IN PERFORMANCES

Horielkov D., PhD in Tech. Sc., Assoc. Prof.
Kharkiv State University of Food Technology and Trade
Veretnik H., Director of the Branch
Ukrainian-American Enterprise Contact-5
Voroshylova O., Master Student
V.N. Karazin Kharkiv National University

Steam convectors are one of the most technologically advanced and functional apparatus used in restaurants. Their functionality significantly exceeds a number of devices that are traditionally used in the hot shops of restaurants. However, the maximum power consumption of the apparatus remains rather high and is at a level of 18–21 kW/hour. In addition, it should be noted that as a steam source in steam convectors, either a built-in steam generator is used, or there are open TENs in the chamber that water is sprayed through the nozzles. At the same time, the cost of vehicles with a built-in steam generator is much higher, so to reduce their value on some models, steam generators are not installed. Together with lowering the cost at the expense of the exception, the level of technological capabilities of the device is reduced, as well as the intensity of the introduction of these devices in the enterprises is reduced. The main factor that causes this state of affairs is the process of vapor formation, the creation of which takes place in the steam generator. Most steam generators are equipped with TENs, which require some water treatment to ensure durable and efficient work. Owners of restaurants neglect the need for water treatment, that is, using water softeners, thereby using untreated water, which leads to the formation of scale and raging on the heating elements, pipelines of the apparatus. It should also be noted that such kind of heaters as TEN is quite energy intensive and inertial. Therefore, we propose to use electrode steam generators to reduce energy consumption, increase the reliability of the apparatus and increase the speed of access to the operating mode.