

В тезисах дано обоснование условий реализации энергетического воздействия на разнообразное рецептурное сырье и тесто. Последующая оценка достигаемых результатов процесса замеса связана с существенными изменениями управления технологическими процессами в рабочей емкости.

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DEVELOPMENT OF EQUIPMENT FOR PRODUCING PUREE PRODUCTS

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In recent years, special attention has been paid to improving production technology, implantation of productive equipment, expanding the range of processed products.

The production of various high-quality baby and diet food products, food concentrates, freshly frozen fruits and vegetables, semi-finished products, and canned food is developing. Functional food production is a separate industry that differs from the production of conventional products by specific requirements for raw materials, technology, equipment, environmental and chemical-technological control.

Fruits and vegetables processing is quite time-consuming, requires storage and disposal of waste, the presence of special workshops and personnel [1].

Heat treatment of apples is one of the main stages in the process of obtaining puree products. Before cutting, grinding and rubbing the fruit and vegetable raw materials, they are underwent of heat treatment, which is carried out in the steam, in hot water, aqueous solutions of acids, alkalis, sodium chloride, hot animals or vegetable fats, as well as by contact with the heating surface [2].

To ensure the required depth of heat treatment, it is necessary to establish a rational duration of the processing of apples with steam or water.

During the research, the dependence of the depth of heat treatment of apples on the duration of its treatment with water and steam, and vapor pressure was established.

The aim of the study was to determine the rational duration of the heat treatment of apples when receiving mashed potatoes. Blanching of apples was carried out in boiling water for 80-90 min at atmospheric pressure and with hot steam at a temperature of 125°C for 25-30 min.

The developed combined processing method consists of a process of heat treatment of fruits with a couple and their mechanical grinding.

Based on the literature and patent studies, it was found that the most promising direction for developing a method of puree products is the use of the combined action of the processes of blanching, rubbing and boiling of the product. The above combination of processes can be implemented through the use of the proposed design of the apparatus for the production of mashed potatoes. To fulfill the tasks it is advisable during the processing of apples to apply the action of steam overpressure. The use of steam overpressure will enhance the action of the cleaning elements and eliminate the need for lengthy treatment in a temperature environment. In addition, the use of high pressure steam and its supply through the nozzles will significantly save energy costs for heating water and the costs of the actual water for the process.

To implement the proposed method for producing applesauce, you can use a special apparatus, which is based on the principle of the combined effect of various processes on the product. The combined continuous apparatus includes a loading hopper with a conveying screw, a housing in which there is a shaft and four interconnected chambers, of which the first and second are cylindrical, and the third is cone-shaped. In the first chamber, on the low-speed hollow shaft, there is a screw that transports the raw materials during blanching to the next chamber. In the second chamber on the high-speed shaft is a turn of the screw for feeding raw materials to the perforated drum. In the third chamber there is a shaft with a screw auger and vertically located knives, the rotation angle of which facilitates the movement of the product along the chamber.

Using the proposed combined continuous apparatus for puree products allows you to get puree concentrates of a given composition with the introduction of the necessary additional components for their further use in the manufacture of confectionery and bakery products.

Also, the use of the apparatus allows to reduce the specific energy consumption for the production of puree concentrates due to the consistent use of combined mechanisms for grinding, rubbing, boiling, mixing, introducing the necessary additional components and more uniform

processing due to the use of rational designs of knives, perforated turns of the screw, etc.

In addition, the advantages of using the device include the reduction of material costs as result of eliminating the auxiliary and transfer operations and vehicle performance increase by switching to continuous operation.

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