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бірник тез доповідей

VII Всеукраїнської науково-практичної

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VII Всеукраїнська науково-практична конференція молодих учених, аспірантів і студентів «Вода в харчовій промисловості»: Збірник тез доповідей VII Всеукраїнської науково-практичної конференції молодих учених, аспірантів і студентів. Одеса: ОНАХТ, 2016. – 220 с.

У збірнику матеріалів конференції наведені матеріали наукових досліджень у сфері використання води на підприємствах харчової галузі, оцінки її якості та можливого впливу на організм людини.

Матеріали призначені для наукових, інженерно-технічних робітників, аспірантів, студентів, спеціалістів цехів та заводів, які працюють в харчовій промисловості та водних господарствах.

Матеріали, занесені до збірника, друкуються за авторськими оригіналами.

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За достовірність інформації відповідає автор публікації.

Під загальною редакцією Заслуженого діяча науки і техніки України, д-ра техн. наук, професора Єгорова Б.В.

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WATER IN FOOD INDUSTRY

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Water as the main or auxiliary materials used in a large number of technological processes of food products. Almost all food production associated with the consumption of water from a particular source. The main problems arising from this due to the fact that the raw water quality is not necessary and requires further purification. In a number of industries related to the production of bottled water, water, baby food, water, beer and alcoholic beverages, as a rule, it requires a

special water treatment, associated not only with its cleaning, but also with the introduction of the individual micro-and macro. An additional difficulty is that the same water source is not seen, so the water treatment system in each case must be tailored to suit local conditions. Water is unique food product. The digestibility of the human body a variety of essential substances from the liquid medium in the order of a superior, and their assimilation of solid food. To a large extent this applies to a set of micro- and macronutrients contained in natural water. The main chemical composition of natural waters associated with dissolved mineral components: macro-and microelements. The first - calcium, magnesium, sodium, potassium, chlorides, sulphates, bicarbonates, depending on the predominance of certain substances, determine the hydrochemical class waters. However, the taste characteristics of the water can be caused by the presence therein of trace elements such as iron, manganese, zinc, copper. The organoleptic properties and especially the taste of water have important physiological significance for the maintenance of water-salt balance of the human body and is largely determined by the process of its preparation in the food industry.

Water requirements, used in various industries and in specific industries are significantly different. They are reflected in the relevant guests, the technical conditions (TU), process instructions (TI), pharmaceutical articles and other regulatory documents. The range of the requirements is extremely wide: from the removal of only the suspended particles to the water, ultrapure for all components. The content of impurities in it is so small that their concentration can be measured by direct methods and expressed in a generalized form in conductivity or resistance

In the food industry, generally require water at close to water salinity, but with the restriction on the content of suspended solids, iron, manganese, and hardness often biofouling. The most common use of softened water for the production of vodka, beer, and so on. Of products, as well as for washing bottles. A number of industries consume demineralized water with salt content tens mg / L for the production of highly stable product. And sometimes this water is used as the basis for the preparation of a "standard" water of a given composition.

Water plays an important role in the life of the organism: all the processes occurring in it, committed with the participation of water. By this it is very important to follow the order, what kind of water we take it in its pure form, as well as for cooking.

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THE USE OF WATER IN THE FOOD INDUSTRY AND THE ACHIEVEMENT OF ITS MICROBIOLOGICAL PURITY

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The food sector is one of the largest consumers of water, because a certain part is included in the composition of the final product. The remaining water is used for rinsing containers, cooling compresses, refrigeration equipment and other things.

The water that is included in the composition of the finished product must fully comply with the norms and quality standards. Though for example, in the beverage industry it is customary to soften the water and reduce its pH, as it significantly reduces the flavor profile of sour fruit and extracts. While water softening using ion-exchange materials in water is a lot of sodium bicarbonate, which can cause foaming of the product. For this reason, the ideal option is often considered de-ionized water subjected to reverse osmosis.

Juices for baby food and other certified products, requires water with a low content of sodium in the water. Its content must fully comply with requirements that limit the sodium content in the water. Therefore, at high water hardness is not produced water softening by ion-exchange resins, as it undergoes demineralization through reverse osmosis. Further may be a mixture of source and treated water to achieve the desired composition.

For the manufacture of vodka requirements are used, the main feature of which is the low content of hardness in the water, and a small sodium content. That is why, more common in water treatment

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