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**MODERN REQUIREMENTS FOR PRODUCTION CHILD NUTRITION**

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**Gorach O. O.** – Ph.D., Associate Professor, Professor at the Department of Food Technologies of the Kherson State Agrarian and Economic University  
ORCID ID: 0000-0002-8737-5002  
Scopus-Author ID: 57426262700

**Istomina Yu. V.** – Obtaining Higher Education of the Second (Master's) Level of the First Year of Studies of the Kherson State Agrarian and Economic University  
ORCID ID: 0009-0007-4024-4447

The article researches modern requirements for the production of baby food in Ukraine. It is noted that this group of food products is represented mainly by domestic production. The analysis of the modern production of baby food allows us to conclude that the variety of this category of goods is quite wide, mainly represented by such products as mashed potatoes, juices and cookies of various flavors and represented by fruit, vegetable, vegetable-meat, fish-vegetable, meat, fish products. Modern production technologies of this group of products provide control of quality and safety indicators of raw materials in the context of food legislation and current control of each stage of the technological process of production, packaging, storage and transportation.

Factors affecting the production of this food group include capacity to grow fruits and vegetables for juice production, as well as dependence on imports, especially oranges, grapefruits, mangoes, etc. Logistics problems are also related to influencing factors. It is known that in Ukraine there are problems with the storage (warehouse logistics) of the harvested crop. In addition, intrastate and interstate travel restrictions affect the quality of transportation of raw materials for juices and finished products, which also affects the price. Volumes are part of a healthy diet, so the popularity of this diet has led to an increase in juice consumption. During the pandemic, consumers' purchasing power has been reduced, and cheaper alternatives are becoming more popular.

The technology for the production of puree intended for baby food involves a sterilization process. The main goal of the sterilization process is the need to obtain a high-quality and safe product that does not contain harmful microorganisms that can cause deterioration of the finished product or the health of the consumer. This technological process is based on the use of heat treatment and preservation methods without the use of preservatives. The puree obtained in this way has a longer shelf life and can be stored at room temperature without a refrigerator. It is often used in the food industry to prepare sauces, soups, drinks and other products. The main type of puree packaging is aseptic packaging.

**Key words:** baby food, safety, quality, technology, production, quality control.

**Горач О. О., Істоміна Ю. В. Сучасні вимоги до виробництва дитячого харчування**

В статті проведено дослідження сучасних вимог до виробництва дитячого харчування в Україні. Зазначено, що дана група продуктів харчування представлена в основному вітчизняним виробництвом. Аналіз сучасного виробництва дитячого харчування дозволяє зробити висновок, що різноманітність даної категорії товарів досить широка, в основному представлена такими продуктами як пюре, соки та печиво різних смаків. Смак представлений фруктовими, овочевими, овочево-м'ясними, рибно-овочевими, м'ясними, рибними продуктами. Сучасні технології виробництва даної групи продуктів передбачає контроль показників якості та безпечності сировини в контексті харчового законодавства та поточний контроль кожного етапу технологічного процесу виробництва, пакування, зберігання та транспортування.

Фактори, що впливають на виробництво цієї групи харчових продуктів відносять потужності для вищезгаданого фруктів та овочів для виробництва соків, а також залежність від імпорту, особливо апельсинів, грейпфрутів, манго тощо. Проблеми логістики також відносяться до факторів впливу. Відомо, що в Україні є проблеми зі збереженням, а саме складською логістикою зібраного врожаю. Крім того, внутрішньодержавні та міждержавні обмеження пересування впливають на якість транспортування сировини

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для соків та готової продукції, що також впливають на ціну. Споживання є частиною здорового харчування, тому популярність цієї дієти призвела до збільшення споживання соку. Під час пандемії, спостерігалася знижена купівельна спроможність споживачів і більшу популярність мали дешевші альтернативи.

Технологія виробництва пюре призначеного для дитячого харчування передбачає процес стерилізації. Основна мета процесу стерилізації є необхідність одержання якісного та безпечного продукту, який не містить шкідливих мікроорганізмів, які можуть спричинити псування готового продукту або здоров'я споживача. Даний технологічний процес базується на використанні термічної обробки та методів консервування без використання консервантів. Одержане в такий спосіб пюре має більший термін зберігання і може зберігатися при кімнатній температурі без холодильника. Його часто використовують у харчовій промисловості для приготування соусів, супів, напоїв та інших продуктів. Основним видом упаковки пюре є асептична упаковка.

**Ключові слова:** дитяче харчування, безпека, якість, технологія, виробництво, контроль якості.

**Formulation of the problem.** Baby food is widely represented by such products as mashed potatoes, juices and cookies. These are one of the main foods that children love. The trends of modern production provide for the release of such an assortment with the provision of maximum usefulness for health, due to the enrichment of this group of food products with vitamins, micro and macro elements, nutrients, etc. In addition, ensuring the quality and safety of ready-made baby food products requires the use of high-quality raw materials, which are a source for food production. These raw materials include fruits, vegetables and cereals.

Special attention is also paid to the packaging of baby food products. Most often, glass containers are used for this purpose, if we are talking about the first complementary food, the range of flavors is represented by fruit, vegetable, vegetable-meat, fish-vegetable, meat, fish products.

Cookies without sugar, flavorings, flavor enhancers are an ideal option for a child's snack.

Children's juices are an important component of the menu, manufacturers offer an assortment of drinks presented as natural, concentrates, without pulp, with pulp, single-component, combined. Of course, you need to choose from a wide range of single-component products, without preservatives and sugar, so as not to cause allergies.

In Ukraine, the largest manufacturers of baby food, which produce fruit and vegetable purees and juices for babies, are «Vitmark-Ukraine», Odesa canning plant of baby food and «Association of children's food» Southern canning plant.

**The purpose of the study.** The purpose of the article is to research modern production technologies, assortment, and quality indicators of baby food.

**Analysis of recent research and publications.** The Ukrainian baby food market is characterized by its own production. The main categories of Ukrainian export goods in 2022 were fruit juices, dry mixes and cereals. Exports of these products fell sharply in 2022 due to falling domestic production and difficult logistics. Analysis of the baby food market allows you to determine a wide range of products, segmented by type and purpose for different age groups. One of the features of the baby food market is that products require certification and set high requirements for production and packaging [1; 2].

In fig. 1 shows the distribution of the baby food market by product types in 2023.

Analyzing the data shown in fig. 1, it can be concluded that the production of fruit and vegetable puree takes second place after dry mixes. It is known that the technology of puree production for baby food involves a sterilization process. The main goal of the sterilization process is the need to obtain a high-quality and safe product that does not contain microorganisms that can cause deterioration of the puree or the health of



Fig. 1. Distribution of the baby food market by product type in 2023

the consumer. This is achieved by heat treatment and special preservation methods without the use of preservatives. Sterile puree has a longer shelf life and can be stored at room temperature without refrigeration. It is often used in the food industry to prepare sauces, soups, drinks and other products. The main type of puree packaging is aseptic packaging [3–5].

Factors affecting the production of this group of food products. Ukraine has large capacities for growing fruits and vegetables, from which it makes juices (apples, tomatoes, grapes, etc.), but it is also dependent on imports, in particular, on oranges, grapefruits, mangoes, etc. Problems with logistics are also related to influencing factors. Ukraine has problems with the preservation of the harvested crop (warehouse logistics). In addition, restrictions on movements within the state and between states in 2020 affected the quality of transportation of raw materials for juices and finished products, which also affected the price. Volumes of consumption are part of a healthy diet, so the increase in popularity of this type of diet is causing an increase in the volume of juice consumption. Purchasing power of the population in periods of recession, substitute goods, which are cheaper, become more popular. Pandemic restrictions – continue to have an impact on the market and the economy of the state as a whole.

In the market of fruit and vegetable puree for baby food, the following general trends and factors that generally affect the market of such products can be identified. The market of aseptic purees directly depends on the production of fruits. Analyzing the harvest of perennial crops in 2022, it can be concluded that the total harvest of agricultural crops decreased by 11% compared to the previous period. The reasons for this are a decrease in the total area of perennial plantings and the area of ripened fruits, as well as a decrease in the yield of agricultural crops. In 2021, the area of fruit plantations was 190,530 hectares. In 2022, it was 171,240 hectares. The total harvest of perennial crops in various farms of Ukraine in 2021 was 2,235,120 tons, and in 2022 – 1,994,760 tons.

Domestic production of sterile purees is mainly represented by apple products, since this fruit is the easiest to obtain as a raw material, and also because the taste of apples is well combined with the taste qualities of other fruits. The apple harvest in 2022 has decreased in almost all regions of Ukraine due to the loss of orchards, insufficient care during the harvest season due to a lack of workers, fertilizers and personal protective equipment.

**Conclusions.** Based on the analysis of the modern production of baby food products, it can be concluded that the assortment of this group of products has a fairly wide range and is mainly represented by the following products: mashed potatoes, juices and cookies. The requirements for the production of this group of products include control

of quality and safety indicators of raw materials and current control at each stage of the technological process of production of products in the context of food legislation.

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