

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
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NATIONAL UNIVERSITY OF FOOD TECHNOLOGY  
EUROPEAN STUDIES' PLATFORM**



## **PROCEEDINGS**

**OF THE II INTERNATIONAL CONFERENCE**

# **EUROPEAN DIMENSIONS OF SUSTAINABLE DEVELOPMENT**

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Jean Monnet Chair FoodPro (# 587488-EPP-1-2017-1-UA-EPPJMO-CHAIR) and  
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**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
НАЦІОНАЛЬНИЙ ЕРАЗМУС+ ОФІС В УКРАЇНІ  
НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ХАРЧОВИХ ТЕХНОЛОГІЙ  
ПЛАТФОРМА ЄВРОПЕЙСЬКИХ СТУДІЙ**



## **МАТЕРІАЛИ**

### **II МІЖНАРОДНОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ**

## **ЄВРОПЕЙСЬКІ ВИМІРИ СТАЛОГО РОЗВИТКУ**

*в рамках проектів програми Європейського Союзу ЕРАЗМУС+  
Жан Моне Кафедра FoodPro (#587488-EPP-1-2017-1-UA-EPPJMO-CHAIR) та  
Жан Моне Підтримка Асоціації EUforUA (611278-EPP-1-2019-1-UA-EPPJMO-  
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**Proceedings of the II International Conference on European Dimensions of Sustainable Development, June 26, 2020. – Kyiv: NUFT, 2020. – 111 p.**

Proceedings of the II International Conference on European Dimensions of Sustainable Development present abstracts of the reports of the conference, which had place on June 26, 2020 at National University of Food Technology, Kyiv, Ukraine (online) in term of the projects of the European Union programme ERASMUS+ Jean Monnet Chair FoodPro (# 587488-EPP-1-2017-1-UA-EPPJMO-CHAIR) and Jean Monnet Support of Associations EUforUA (611278-EPP-1-2019-1-UA-EPPJMO-SUPPA). The proceedings cover economic, environmental and social aspects of sustainable development of European Union and Ukraine, as well as European Studies on the sustainable development.

**Матеріали II Міжнародної науково-практичної конференції «Європейські Виміри Сталого Розвитку», 26 червня 2020. – К.: НУХТ, 2020 . – 111 с.**

У збірнику представлено тези доповідей II Міжнародної науково-практичної конференції «Європейські виміри сталого розвитку», що проходила 26 червня 2020 р. у Національному університеті харчових технологій, Київ, Україна (онлайн) у рамках реалізації проектів програми Європейського Союзу ЕРАЗМУС+ Жан Моне Кафедра FoodPro (#587488-EPP-1-2017-1-UA-EPPJMO-CHAIR) та Жан Моне Підтримка Асоціацій EUforUA (611278-EPP-1-2019-1-UA-EPPJMO-SUPPA). Матеріали охоплюють економічні, екологічні та соціальні аспекти сталого розвитку Європейського Союзу та України, а також досвід Європейських Студій для сталого розвитку.

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# TECHNOLOGICAL RATIONALIZATION OF FERMENTED ICE CREAM PRODUCTION

Artur Mykhalevych, Viktoria Sapiga, Galina Polischuk, Tetiana Osmak  
*National University of Food Technologies, Kyiv, Ukraine*  
Email: [artur0707@ukr.net](mailto:artur0707@ukr.net)

In recent years, the volume of production of health food products is growing, their caloric content is decreasing, and the share of ingredients with therapeutic or prophylactic properties in their composition is increasing.

Therefore, instead of milk as a milk base in the ice cream, it is advisable to use secondary dairy resources - skim milk, buttermilk and whey, which was fermented by probiotic acidophilic starter, contain biologically complete proteins and can be further enriched with pectin-containing raw materials.

In view of the above, research on the expansion of the range of low-calorie ice cream of high nutritional value is quite relevant.

*Materials and methods.* Soft ice cream with a single tab weighing 4 kg was made using a periodic action freezer of brand FPM-3,5 / 380-50 "Elbrus-400" TC U.14086152.081-97 in the training laboratory of Milk and Dairy Products Technology Department, NUFT (manufacturer - JSC "ROSS", Kharkiv, Ukraine).

Hardening and storage of ice cream was performed in a freezer "Caravell" A / S (Denmark) at a temperature of  $-(20 \pm 2) ^\circ \text{C}$ .

*Results.* In Ukraine, the range of sour milk ice cream with probiotics is extremely limited, as the "Standard technological instructions for the production of ice cream" [1] provides for the production of only yogurt and cottage cheese ice cream. At the same time, even according to the interstate GOST 32929-2014 "Fermented ice cream" [2], adopted for use in the countries of the former USSR, including Ukraine, sour milk ice cream is intended to be made on the basis not only of yogurt and cottage cheese, but also fermented milk, acidophilus, airan, fermented baked milk, sour cream paste, varenets and koumiss, which is not taken into account by domestic producers. In addition, the described Instructions [1] technological schemes for the production of fermented milk ice cream are very technologically complex and have certain contradictions.

Based on the comparative analysis of fermented ice cream production schemes, the simplest and technologically feasible technology was selected.

The technological process of preparation of yogurt mixture before fermentation is similar to the conventional process of ice cream production. The mixture cooled to a temperature of  $42 ^\circ \text{C}$  is inoculated and incubated until the acidity of the mixture reaches 50... 55 ° T, cooled to a temperature of  $4 ^\circ \text{C}$ . Freezing, hardening, re-hardening and storage are carried out according to the usual scheme.

*Conclusions.* Implementation of proposed scheme for the production of fermented ice cream will ensure the rational use of production resources by reducing the duration of the technological process.

## *References:*

1. Typical technological instructions for the production of milk ice cream, cream, ice cream; fruit and berry, aromatic, sherbet, ice; ice cream with a combined composition of raw materials: TTI 31748658-1-2007 to GOST 4733: 2007, 4734: 2007, 4735: 2007. - [Effective from 2008-01-01]. - Kyiv: Association of Ukrainian Producers "Ukrainian ice cream and frozen products", 2007. - 100p.
2. GOST 32929-2014 (Interstate standard) "Fermented ice cream. Technical conditions»