

**Міністерство освіти і науки України**

**Національний університет  
харчових технологій**

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**84 Міжнародна  
наукова конференція  
молодих учених,  
аспірантів і студентів**

**“Наукові здобутки молоді –  
вирішенню проблем  
харчування людства у ХХІ  
столітті”**

**23–24 квітня 2018 р.**

**Частина 1**

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**Київ НУХТ 2018**

**84 International** scientific conference of young scientist and students "Youth scientific achievements to the 21st century nutrition problem solution", April 23-24, 2018. Book of abstract. Part 1. NUFT, Kyiv.

The publication contains materials of 84 International scientific conference of young scientists and students "Youth scientific achievements to the 21st century Nutrition problem solution".

It was considered the problems of improving existing and creating new energy and resource saving technologies for food production based on modern physical and chemical methods, the use of unconventional raw materials, modern technological and energy saving equipment, improve of efficiency of the enterprises, and also the students research work results for improve quality training of future professionals of the food industry.

The publication is intended for young scientists and researchers who are engaged in definite problems in the food science and industry.

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**Матеріали 84 міжнародної наукової конференції молодих учених, аспірантів і студентів "Наукові здобутки молоді – вирішенню проблем харчування людства у ХХІ столітті", 23–24 квітня 2018 р. – К.: НУХТ, 2018 р. – Ч.1. – 518 с.**

Видання містить матеріали 84 Міжнародної наукової конференції молодих учених, аспірантів і студентів.

Розглянуто проблеми удосконалення існуючих та створення нових енерго- та ресурсощадних технологій для виробництва харчових продуктів на основі сучасних фізико-хімічних методів, використання нетрадиційної сировини, новітнього технологічного та енергозберігаючого обладнання, підвищення ефективності діяльності підприємств, а також результати науково-дослідних робіт студентів з метою підвищення якості підготовки майбутніх фахівців харчової промисловості.

Розраховано на молодих науковців і дослідників, які займаються означеними проблемами у харчовій науці та промисловості.

*Рекомендовано вченою радою Національного університету харчових технологій. Протокол № 9 від 29 березня 2018 р.*

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## 5. Effect of Stevia water extract on sensory characteristics of bakery products

Nataliia Sokolova, Viktoriia Holovniak

*Odessa National Academy of Food Technology, Odessa, Ukraine*

**Introduction.** Bakery products, from all types of foods, have one of the highest glycemic indexes, so it's hard to recommend them for daily intake, and especially for people, who has metabolic disorders or overweight. The aim of this study to develop the technology of new food product, which will be one of several dietary baked goods, with low moisture content due to the adaptation of the technological process and the recipe.

**Materials and methods.** During research we were using the dry leaves of stevia that had produced according to TU U 551/46.16331590-97. To obtain the extract, they were poured water with a temperature of 98...100 °C in a ratio of 1:10, and insisted. The extract contained 0.8 % of dry, titrated acidity - 0.6 deg. The sensory characteristic of bakery goods were determined by special score.

**Results and discussion.** At the first stage of research, the effect of water extracts of stevia on the sensory characteristics of bakery products was established. The dough was prepared from wheat flour, pressed yeast, an extract that replaced 10, 20, 30% of water in the dough. As far the aim of study is reducing the glycemic index of products, in the future wheat flour will be removed from the recipe formula. During the sensory analysis of finished products, attention was paid on products look, such as color of the crust, the color and elasticity of the crumb.

The crust was uneven and convex, with 10% and 20% of the extract, the color of the crust was pale that depends on low level of melanoid formation reaction. A sample of 30% water replacement had a more vividly colored crust. The taste, with a 30% water replacement, was satisfyingly sweet, with a slight flavor and fine notes of the extract.

The results showed that increasing the dosage of stevia extract in the dough have been intensifies fermentation process. It was evaluated by the amount of gas produced in the dough system, and physiological state of the yeast cells and the generative function. Since there was a decline of the adaptation period the yeast cells to conditions of flour semifinished 15 % on average, besides increasing the total number of yeast cells after 180 minutes of fermentation dough for 12, 17 and 21 %. The quantity of give off CO<sub>2</sub> dough maturation period increased respectively by 24, 32, 43 %.

**Conclusions.** According to the results of the research, it was found that the extract of stevia can be considered as a perspective sugar substitute, nevertheless, further research is needed to find ways to achieve the best taste and aroma.

### References

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