

BENEFITS OF MUSHROOM POLYSACCHARIDES USE IN FUNCTIONAL FOOD PRODUCTION

Sokot O. E., *s1o9k9o9t@gmail.com*

Dmytro Motorny Tavria State Agrotechnological University

Food is one of the main factors determining human health due to the intake of proteins, fats and carbohydrates into the body. Improper nutrition leads to premature aging, reduced efficiency and slow development, increased likelihood of depression, metabolic problems, gastrointestinal tract. Unfortunately, the modern rhythm of life makes proper nutrition rather difficult, therefore fast food, which is affordable, cheap and tasty, is now very popular.

One of the solutions to this problem is the creation of functional products. These products are useful in that they increase immunity, physical endurance of the body, etc. For example, Japan produces chocolate for people with heart diseases and beer for people with diabetes.

We found that a good solution would be to replace the cornstarch of the waffles with mushroom powder. Usually waffles contain up to 80%, mostly simple, carbohydrates in the form of disaccharides. Polysaccharides of fungi, which have more branched structure and higher molecular weight compared to plants, are able to adsorb and excrete harmful substances like, heavy metals and radionuclides.

Therefore, the purpose of our research was to develop a waffle formula using mushroom powder.

After mushroom powder analyzing the salt content in $3.4 \pm 0.1\%$ was detected. During the production of the test sample the amount of salt was determined by the calculated method (Table 1).

Table 1

Recipe for cheese waffles (snacks with mushroom powder), %

<i>Component name</i>	<i>Control</i>	<i>Experiment</i>
<i>Chicken egg</i>	<i>18,75</i>	<i>18,75</i>
<i>Butter, 62.5% fat</i>	<i>10,00</i>	<i>10,00</i>
<i>Fresh water</i>	<i>25,01</i>	<i>25,01</i>
<i>Cornstarch</i>	<i>30,01</i>	<i>25,01</i>
<i>Hard cheese</i>	<i>13,75</i>	<i>13,75</i>
<i>Mushroom powder</i>	<i>0,00</i>	<i>5,25</i>
<i>Seasoning for salad</i>	<i>0,23</i>	<i>0,23</i>
<i>Ground black pepper</i>	<i>0,25</i>	<i>0,25</i>
<i>Dill</i>	<i>0,25</i>	<i>0,25</i>
<i>Salt</i>	<i>1,50</i>	<i>1,25</i>
<i>Baking soda</i>	<i>0,25</i>	<i>0,25</i>

The result was following: waffles had a slightly bright color and characteristic mushroom flavor. Organoleptic analysis showed that the use of mushroom powder is a rather promising way to develop functional products.

References

1. Lyalyk, A., Kryskova, L., & Kravchuk, L. The concept of functional foods. Abstracts of the 4th International Scientific and Technical Conference "State and Prospects of Food Science and Industry", 2017. P.114-115.
2. Shemeta OO, Dozhuk KM Functional nutrition - a new approach to a healthy lifestyle // Medicines of Ukraine. 2015. Vol. 1, № 186.
3. The number of calories in sweets [Electronic resource]. - Access mode: <https://bonduelle.ua/stattya/kilkist-kalorij-v-solodoshchah>

Scientific advisers: *Bandura I. I., PhD in Agricultural Sciences, associate professor Department of Food Technologies and Hotel and Restaurant Business, Dmytro Motornyi Tavria State Agrotechnological University.*

Kulyk A. S., PhD in Engineering Science, associate professor Department of Food Technologies and Hotel and Restaurant Business, Dmytro Motornyi Tavria State Agrotechnological University.

Language adviser: *Shevchenko S. P., assistance professor, Foreign Languages Department, Dmytro Motornyi Tavria State Agrotechnological University.*