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**INNOVATIVE CULINARY TECHNOLOGY FOR VEGETARIAN DIET
ІННОВАЦІЙНА ТЕХНОЛОГІЯ КУЛІНАРНОГО ВИРОБУ ДЛЯ
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Анотація. *The article raises the topic of vegetarianism, which is insufficiently studied at the moment and requires further research. Vegetarianism has been a part of human culture since ancient times; supporters of a plant-based diet existed as far back as ancient Greece and Asia. Today, vegetarianism is the most widespread system of non-traditional nutrition. Food consumption is a significant part of social culture and identity, such as the emergence of vegetarianism and veganism, which are associated with a new culture of environmentalism and humanism. In Ukraine, as well as in the West, a significant proportion of people consider themselves vegetarians. The situation in Ukraine with vegetarianism is complex: according to the UA Plant-Based 2020 study, more and more Ukrainians are becoming interested in reducing meat consumption in favor of plant-based products; many respondents revealed the willingness of Ukrainians to use plant-based alternatives in case of availability and identity. Plant-based products are gaining popularity, so today the popularity of plant-based nutrition cannot be ignored. More and more plant-based substitutes for milk and yogurts, sausages and sausages, or plant-based "meat," are appearing on the domestic market, and more and more plant-based options are appearing in restaurants.*

Key words: *vegetarianism, nutrition, dessert, menu, technology, introduction*

Introduction

The word "vegetarian" comes from the Latin "vegetus" means "healthy, fresh" was used for the first time in 1842 (Tristram, 2007) by representatives of the "British Vegetarian Society". Vegetarians believe that the consumption of animal products contradicts the structure of human digestive organs, contributes to the formation of toxic substances in the body that poison cells and reduce life expectancy. Vegetarianism was popularized in the West in the 19th century, primarily philosophers, scientists and the most prominent personalities of their time became vegetarians. In the modern sense, vegetarianism is a food system that assumes the consumption of only plant products, which, according to this system, are the only natural human food [1].

The vegetarian worldview system is built on ethical principles, which include the rejection of animal exploitation in all spheres of life, from food to leisure. The term "vegetarian" was introduced by Donald Watson in 1944. In 1950, Watson and several other researchers first formulated the definition of veganism: "The doctrine according to which man should live without exploiting animals." Vegetarians do not consume animal products (meat, fish, poultry and seafood), do not wear fur, leather, silk, do not use cosmetics, medicines and household chemicals tested on animals, do not visit circuses, zoos. To date, there are many video blogs, sites, communities in



social networks that are dedicated to vegetarianism.

Over the past few years, there has been a significant increase in the popularity of vegetarian diets. Some go vegetarian for ethical reasons, others are concerned about their health or environmental pollution. Vegetarianism is not a new diet for mankind, ancient records indicate that as early as the 6th century. B.C. in India, Greece, and southern Italy, people tried to avoid eating meat. While in India, vegetarianism was a common practice among religious people and philosophers.

Later in Europe, with the introduction of Christianity, vegetarianism lost its popularity until the 19th century, which is considered the period of revival of vegetarianism. In 1847, the first vegetarian society was created in England. Similar formations later appeared in Germany, Denmark, France and other parts of Europe [8].

Main text.

Taking into account the rapid development of the market for vegetarian products and the increase in demand for them, the technologies for the production of vegetarian products are becoming more and more developed and innovative. We are offered to develop the "Cherry" brownie dessert and offer it for implementation in restaurants that include vegetarian dishes on the menu with the aim of expanding the assortment, increasing the competitiveness of vegetarian dishes and activating the demand for them among different contingents of consumers.

The production of vegetarian products is a rather broad topic, as it can include various technologies, such as the use of various plant ingredients, the inclusion of proteins of plant origin, fermentation processes.

Replacing meat and other animal products with similar plant products is becoming increasingly popular among people who choose a vegetarian or vegan lifestyle. There are several methods of replacing meat and other animal products with similar plant products that have a similar taste and texture. A list of herbal alternatives to products of animal origin is shown in Table 1

Table 1 - Plant-based alternatives to animal products

Animal product/origin	Vegetable alternative
Meat	Tofu, seitan, tempeh, okara, soy, lentils, chickpeas, lentils, peas, spelled, amaranth, hemp, cauliflower, broccoli, cabbage, mushrooms, eggplant, zucchini, pumpkin, onion, pepper, nettle, asparagus, broccoli, avocado
Fish	Sea cabbage, canned rice or soy tuna, algae, spirulina, fish sauce based on vegetable oil
Eggs	Tofu, kala namak, pectin, aquafaba, starch, ground flax seeds, applesauce, coconut milk, mustard seeds, chia seeds
Dairy products	Soy milk, almond milk, coconut milk, oat milk/milk, hemp milk, rice milk, nut milk, buckwheat milk, avocado milk, tofu
Gelatin	Carob, agar-agar, gum

It is important to note that replacing products of animal origin with vegetable alternatives should be carried out taking into account the necessary nutrients and caloric content. To obtain a complete diet, vegetarians should include in their diet a variety of plant foods, such as vegetables, fruits, cereals, seeds, and nuts [38].



Culinary products are made in a certain sequence, starting from the provision of raw materials, equipment, inventory and energy and ending with the sale of finished products. The process of transforming raw materials into finished products is called technological. The technology of making chocolate brownies according to the classic recipe was taken as the basic basis for the development of an innovative product [3].

Table 2 – Interchangeability of ingredients for classic and vegetarian brownies

Ingredient	Classic brownie	Vegetarian brownie
Eggs	Eggs	avocado, cherry puree
Milk	Milk	coconut milk
Butter	Butter	coconut oil
Sugar	Sugar	coconut sugar
Flour	Flour	oat flour, gluten-free mixture
Cocoa	Cocoa	carob
Soda	Soda	Soda
Salt	Salt	Salt

Below is a technological map for the "Cherry" brownie product using cherry puree, adding a gluten-free mixture and cherub, which is not expected by the classic recipe. In order to preserve the structure of the dough, eggs were replaced with avocado and cherry puree, and to increase the elasticity of the dough, coconut oil, rich in unsaturated fatty acids, vitamin E and other important substances, was added.

Table 3 - Technology map

№	The name of the raw material	Mass of raw materials, g				Technological requirements for the quality of raw materials
		For 1 portion		For 10 servings		
		Gross, g. Net, g	Gross, g. Net, g	Gross, g. Net, g	Gross, g. Net, g	
1	Coconut milk	30	30	300	300	White in color, without extraneous impurities and odors
2	Oatmeal	10	10	100	100	White in color, without extraneous impurities and odors
3	Avocado	20	15	200	150	The taste and smell are characteristic avocado; the color is light green, the consistency is uniform
4	Cherry puree	10	10	60	60	The taste and smell are characteristic of cherries; the color is red, the consistency is uniform
5	Coconut sugar	20	20	200	200	Cream-colored, without extraneous impurities and odors
6	Gluten-free mixture	10	10	100	100	White in color, without extraneous impurities and odors
7	Kerob	10	10	100	100	Cinnamon-colored, without extraneous impurities and odors
8	Coconut oil	5	5	50	50	White in color, without extraneous impurities and odors
9	Soda	1	1	10	10	White in color, without extraneous impurities and odors
10	Salt	0,25	0,25	2,5	2,5	White in color, without extraneous impurities and odors
	Entrance		60		600	



Cooking technology

Sift flour, gluten-free mixture and carob into a mixing bowl, add salt and coconut sugar. Mix cherry puree with soda. Peel and chop the avocado. Combine all ingredients and mix until smooth. Spread the mass on a baking sheet lined with parchment. Bake for 15-20 minutes. At a temperature of 180 C. Cool the finished product, separate the parchment, put it on a wire rack until it cools completely. Before serving, cut into portioned pieces, decorate with berries [3,4].

Characteristics of the finished product

Appearance: baked evenly.

Color: dark brown

Consistency: homogeneous, elastic.

Conclusions and conclusions.

The developed brownie dessert "Cherry" can be offered for introduction in restaurants that include vegetarian dishes on the menu in order to expand the assortment, increase the competitiveness of vegetarian dishes and activate the demand for them among different contingents of consumers.

Literature :

1. Ivanishcheva, O.A., Pakhomska O.V. (2021) Tendentsii formuvannia yakosti khlibobulochnykh vyrobivfunktsionalnogo pryznachennia [Tendencies in the formation of the quality of khlibobulochnykh workflows]. *Molodyi vchenyi* (Vol. № 5 (93), pp. 159-163). DOI: <https://doi.org/10.32839/2304-5809/2021-5-93-30>

2. Drobot, V., Hryshchenko, A. (2010) Rozrobka novykh vydiv bezbilkovykh khlibobulochnykh vyrobiv. [Development of new types of protein-free bakery products]. *Naukovi pratsi Odeskoi natsionalnoi akademii kharchovykh tekhnolohii*. [Scientific works of the Odessa National Academy of Food Technologies]. (Vol. 1. Vyp. 38 (1). pp. 164-167.) URL: http://nbuv.gov.ua/UJRN/Np_2010_38%281%29_40

3. Pakhomska, O. (2019) Naukovyi pidkhid do stvorennia khlibobulochnykh vyrobiv funktsionalnogo pryznachennia. [Scientific approach to the creation of functional bakery products]. *Naukovi pratsi NUKHT*. [Scientific works of NUHT]. (Vol. 25. № 2, pp. 276-283). DOI: <https://doi.org/10.24263/2225-2924-2019-25-2-30>

4. Ildirova, S.K., Stiborovskyi, S.E., Starostielie, O.V. (2010). Vykorystannia roztoropshi pliamystoi u vyrobnytstvi vyrobiv iz pisochnoho tista [The use of milk thistle in the production of shortcrust pastry]. *Visnyk DonNUET* (Vol. №1(45), pp. 121-126). URL: http://nbuv.gov.ua/UJRN/Khnit_2010_1_30

Анотація. У статті піднято тему вегетаріанства, яка на даний момент є недостатньо вивченою та потребує подальших досліджень. Вегетаріанство було частиною людської культури з давніх часів; Прихильники рослинної дієти були ще в Стародавній Греції та Азії. Сьогодні вегетаріанство є найпоширенішою системою нетрадиційного харчування. Споживання їжі є значною частиною соціальної культури та ідентичності, наприклад, поява вегетаріанства та веганства, які пов'язані з новою культурою захисту навколишнього середовища та гуманізму. В Україні, як і на Заході, значна частина людей вважають себе вегетаріанцями. Ситуація в Україні з вегетаріанством складна: згідно з дослідженням *UA Plant-Based 2020*, все більше українців цікавляться скороченням споживання м'яса на користь продуктів рослинного походження; багато респондентів



виявили готовність українців використовувати рослинні альтернативи за наявності та ідентичності. Продукти рослинного походження набирають популярності, тому сьогодні не можна ігнорувати популярність рослинного харчування. На вітчизняному ринку з'являється все більше рослинних заміників молока та йогуртів, сосисок і сосисок або рослинного «м'яса», все більше рослинних варіантів з'являється в ресторанах.

Ключові слова: вегетаріанство, харчування, десерт, меню, технологія

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