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INNOVATIVE TECHNOLOGIES OF FLOUR DISHES IN RESTAURANTS

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Experts of the World Health Organization have proven that approximately 50% of a person's health is determined by the way of life, which is characterized by the quality of nutrition, intensity of physical activity, place and natural climatic conditions of residence, habits, living and working conditions. The main violations of the nutritional status of various groups of the population of Ukraine include a deficiency of complete proteins, polyunsaturated fatty acids, dietary fibers, excessive consumption of simple, quickly digestible sugars, and a low content of vitamins, macro- and microelements in the diet. Today, the development of special food products is a promising direction in the field of creating new types of products due to the regulation of their content of essential substances. Products with a functional purpose should enrich the diet of the population with physiologically active ingredients, because the biological value of food is determined by the content of proteins, fats, carbohydrates, vitamins, minerals, organic acids, fiber, availability and digestibility of components.

Sauces occupy a secure position among modern food products. Sauces are used as a seasoning to improve the taste and digestibility of products, as well as as an additional recipe component in the manufacture of food products, but sauces have a low nutritional value to ensure full human nutrition, so in order to solve this problem, the studied sauces will be used avocado oil. Therefore, the aim of the work is the scientific justification and development of the technology of Polish sauce using avocado oil and the study of its quality.

The object of research is the technology of sauce with avocado fruit oil.

The subject of the study is Polish sauce, avocado oil (TU U 24.6-33398305-001:2007 "Avocado oil").

Research methods – organoleptic, physicochemical, mathematical processing of experimental data based on computer technologies. As early as 12,000 years ago, nutritious and healthy avocados were actively consumed by ancient Colombian and Mexican tribes. But since the time of Columbus, the oil obtained by squeezing ripe avocados has been considered a particularly valuable and delicate product. Today, oil from avocado fruits grown in many countries of the world (USA, South America, South Africa, Kenya, Spain, Cuba, Australia, Israel, New Zealand) is widely used in cosmetology and cooking. Avocado oil, which has high nutritional value and excellent taste, contains a large amount of easily digestible fats, essential vitamins, macro- and microelements and other biologically active substances. In terms of calories, avocado oil is not inferior to meat and chicken eggs, and also exceeds most edible vegetable oils (this is confirmed by the fact that in 1998, avocado was listed in the Guinness Book of Records as the most high-calorie fruit in the world). In terms of protein content, the avocado fruit is 2-3 times higher than grapes, apples, pears, bananas, and citrus fruits, and in terms of fat content, it is the leader among known fruits, second only to coconut. It is worth noting that 30% of the fats contained in avocado oil are unsaturated fatty acids easily absorbed by the human body. Avocado oil also contains vitamins A, E, C, B1, B2, B3, B9, D, lecithin, saturated fatty acids, phytosteroids, essential oils, chlorophyll, squalene, amino acid histidine, and many useful macro- and microelements. (potassium, magnesium, phosphorus, iron, calcium, sodium, manganese, zinc, iodine, cobalt, copper, etc.) The antioxidant vitamin E, which has powerful immunoprotective, wound-healing and rejuvenating properties, is 5 times more abundant in avocado oil than in olive oil. Avocado oil contains a large amount of antibacterial substance - chlorophyll. Chlorophyll has a beneficial effect on the respiratory, cardiovascular, endocrine, and digestive systems, relieves irritation of the mucous membrane, prevents the formation of stones in the kidneys and bladder, and promotes effective cleansing of the human body from impurities and toxins. Avocado oil differs from other vegetable oils due to its high lecithin

content. Lecithin plays a key role in the coordinated work of the cardiovascular, central and peripheral nervous systems, participates in the synthesis of hormones necessary for the proper functioning of the liver, pancreas and reproductive system, significantly improves the absorption of vitamins A and E by the body.

"Polish" sauce belongs to egg-butter mixtures, which are prepared from butter, raw egg yolks with the addition of lemon juice or citric acid and salt. In egg-butter sauces, the emulsion from butter and yolks may break down (degreasing), as a result of which the taste and appearance of the sauce deteriorate, the sauce becomes unsuitable for serving it to culinary products. To prevent the yolks from setting, which leads to defatting of the sauce, cold water should be added to the mixture before it is boiled according to the recipe. The temperature of cooking the sauce should not exceed 70°C. Boil it in a water bath, and the temperature of the water should be within 85-90°C. As can be seen from the above ingredients, emulsion sauces have insufficient nutritional value, which requires a lot of development, namely in improving the recipes of egg-butter sauces and increasing their nutritional value. "Polish" sauce according to the traditional cooking technology was chosen as the control. "Polish" sauce is a spicy dressing for fish and seafood dishes. You can serve the sauce both warm and cold, such a sauce is tasty, aromatic, with a piquant sourness and a taste of freshness. During the experimental tests, part of the butter was replaced with avocado oil. During the organoleptic evaluation of the developed "Novitny" sauce, five important interrelated indicators were studied: appearance, color, consistency, smell and taste. For their research, a five-point system was used, taking into account the weighting factor, which was determined for each indicator.

The test samples (2 g and 3 g of dietary supplement, respectively) are at the level of the control in terms of quality characteristics, and the next three differ in the deterioration of all organoleptic indicators. According to the organoleptic evaluation, the rational content of avocado oil is 3%, because this amount of additive does not impair the organoleptic indicators of the developed "Novitny" sauce. After developing the "Novitny" sauce and establishing the rational content of the dietary supplement, it is necessary to determine its nutritional value. Based on the data analysis, it can be concluded that compared to the control, the experimental sauce contains a greater amount of dietary fiber - 42%, unsaturated fatty acids - 6.3%, vitamin A - 26%, vitamin B1 - by 6%, B6 - by 12.5%, B9 – by 45%, vitamin C – by 7.69%. In addition, the content of minerals increased: K - by 17.8%, Ca - by 1%, Mg - by 18%. Thus, the use of avocado oil significantly improves not only the organoleptic parameters, but also the chemical composition of the developed sauce. A comprehensive quality indicator was calculated and a quality model of "Novitny" sauce with the addition of avocado oil was built. According to the calculations, it was determined that the comprehensive indicator of the quality of the test sample is 3.85, and the test sample is 14.33, which is almost two times higher than the control. As a result of the conducted research, it was found that the addition of avocado oil to the composition of Polish sauce does not have a negative effect on the technological process of production and the quality of the finished sauce. Thus, the use of avocado oil in the Polish sauce technology is appropriate and allows to compensate for the lack of necessary vitamins, minerals and dietary fibers. The developed sauce is recommended for use in restaurants.

REFERENCES

1. Mazaraki A.A. (2012). Tekhnologiya harchovih produktiv funkcional'nogo pryznachennya. Kiiv: KNTEU. 1116 s.
2. L'vovich I.YA. (2016) Perspektivnye trendy razvitiya nauki: tekhnika i tekhnologii. Odesa: KUPRIENKO SV. 197 s.
3. Antiushko, D., Bozhko, T., Shapovalova, Nutritional value of a dry soluble gerodietetic product for enteral nutrition. Eastern-European Journal of Enterprise Technologies. 2021. № 5. C. 35–42.
4. Cherevko O.I. (2017). Innovacijni tekhnologii harchovoї produkciї funkcional'nogo pryznachennya. Harkiv: HDUHT. 591 s.
5. Yatsenko V.M. (2017). Financial-economic and innovative support of entrepreneurship development in the spheres of economy, tourism and hotel-restaurant business. Agenda Publishing House, Coventry, United Kingdom. 619 s.