

DIETARY FIBERS IN THE TECHNOLOGY OF SOFT CHEESE

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Dietary fiber is of growing interest because of its many health benefits, including the prevention of obesity and colorectal cancer, as well as reduced risk of asthma and cardiovascular disease. Soluble dietary fiber has great market potential in food additives and functional foods as a stabilizer, gelling agent, and thickener. However, the content of soluble nutrients in many plants is typically low [1].

Soft cheese is one of the excellent sources of important nutrients such as vitamins, minerals, lipids, free fatty acids, proteins, and free amino acids. Therefore, cheese is the most nutritious food in the world diet. Furthermore, cheese produced using ultrafiltration technology has an increased production capacity and higher cheese yield compared to conventional cheese. It also has more advantages because it reduces the amount of rennet and salt used in the cheese. Furthermore, the addition of vegetables, herbs, and spices to this type of cheese makes it possible to produce special soft cheese.

The purpose of this study is to investigate the possibility of using dietary fiber in soft cheese technology to improve sensory characteristics and at the same time increase nutritional value.

Prebiotics are generally high-fiber, non-digestible compounds that are fermented by the gut microbiota and can regulate the intestinal flora, while probiotics are live microorganisms found in fermented dairy products, including curds, that improve the composition and function of the gut flora and benefit human health.

Paper [2] presents a study on the use of spinach powder as a source of dietary fiber in soft cheese technology: cheese containing 0,5% and 1,0% spinach powder showed higher sensory parameters and increased nutritional and biological value content. The developed cheese is a new functional dairy product with the potential to provide better nutrients to the human body.

The work [3] focused on an innovative ultrafiltrated cheese product containing red radish root in the form of a nanopowder to provide a healthy source of nutrients for the human body. The results show that the red radish root powder has excellent protein, ash, fiber, and antioxidant activity. Furthermore, texture profile measurements, chemical properties, and sensory evaluation of the cheese were improved by increasing the amount of red radish root nanopowder compared to the control cheese during the storage period. Therefore, adding red radish root as a natural ingredient to the nanopowder improves the quality and nutritional value of the cheese product.

In [4], a new type of soft cheese technology was developed using rye bran to enhance the food properties and fiber in cheese. The newly developed product contributes to the removal of heavy metals, radionuclides, and other contaminants from the human body. Furthermore, soft cheese is a protein product, and the inclusion of non-dairy ingredients in its composition enhances the positive effects of protein and additional elements on the human body and activates the health-promoting properties of the product.

The work [5] evaluated the composition, antioxidant and antimicrobial properties of carrot powder and studied their effects on the sensory characteristics, chemical properties and microbial survival of probiotic soft cheeses. The results of this study demonstrated the nutritional and antioxidant properties of carrot powder. The addition of carrot powder to probiotic soft cheese affected moisture and salt content. The total bacterial count in the cheese decreased from 7.5 to 7.3 log CFU/g when carrot powder was used at a rate of 0.6%. With the addition of carrot powder, a decrease in total bacterial count was observed during 28 days of storage.

The work [6] investigated the effects of different addition ratios of lupine powder on the physicochemical, microbial, and sensory properties of soft cheeses. The results showed that the use of lupine powder can improve the nutritional, storage, and sensory properties of soft cheeses, and

that lupine powder plays an inhibitory role in reducing microbial load and extending shelf life.

Thus, the results of theoretical studies indicate that research into the effects of plant ingredients as a source of dietary fiber added to cheese products is an urgent priority for the food industry. The cheese products developed are high in fiber, vitamins, and minerals and are generally characterized by high nutritional and biological value.

References.

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