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ALTERNATIVE APPROACHES TO TRADITIONAL CHEESE PRESERVATION METHODS

Cheese is a product with a high nutritional value being a source of protein, mineral salts especially calcium and phosphorus, which are essential components in the diet. The major problems encountered during cheese preservation and storage are microbial contamination and lipid oxidation.

The use of preservatives is one of the simplest and oldest methods of extending the shelf life of cheese. Increased consumer awareness of fresh and preservative-free foods has led scientists to investigate new alternative approaches to traditional preservation methods. New food packaging systems are a priority in the food industry. Modified atmosphere packaging (MAP), controlled atmosphere packaging (CAP) are widely used nowadays in developed countries, especially for cheeses. The application of edible packaging can significantly reduce the costs of packaging cheeses by reducing the amount of packaging material that is required. Active packaging and nanomaterials could be useful for extending the shelf life of dairy products by reducing the permeability of the material and the negative influence of batch processing on sensory characteristics.

Packaging in modified atmosphere belongs to a group of flexible packaging methods, the essence of this technology is that the air inside the packaging material is removed and, instead, a gas or a mixture of several gases with high inertia and chemical reactivity is introduced into the packaging. reduced, such as: carbon dioxide (CO₂), nitrogen (N₂) and oxygen (O₂).

Although modified atmosphere packaging technology has proven to be effective in extending the shelf life of cheeses, it should be noted that the use of this method depends on several parameters, in particular the type of cheese, production process, packaging materials, gas volume from inside of the package, residual oxygen level, etc.