

SCIENTIFIC RATIONALE FOR OPTIMAL STORAGE CONDITIONS OF LIQUEUR

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In today's food industry, an important task is to create new competitive products that meet consumer requirements in terms of organoleptic properties, chemical composition and safety. Particular attention is drawn to liqueurs, which occupy an important place among alcoholic beverages due to their taste and variety.

Liqueur is an alcoholic beverage with an alcohol content of 25 % to 45 % and a mass concentration of extractives of 25 to 60 g/100 cm³, made on the basis of sugar syrup using semi-finished plant and fruit raw materials, including apples, chokeberry, cinnamon, as well as syrups from rose hips, raspberries, passion fruit and peaches. The main flavourings in liqueurs are herbs, spices, fruits, their peel and pits, such as dried lime, lemon and orange peel; nuts: walnuts, almonds and many others. The overall flavour profile of fruits is influenced by many factors: geographical origin, cultivation, storage and harvest time. Fruits contain several hundred compounds that have a cumulative effect on the overall flavour. In many cases, the fruit flavour is influenced by a mixture of several compounds that do not have such properties individually.

The main factors that affect the quality and shelf life of liqueurs are the recipe composition of the liquor, compliance with all technological operations during production, the use of stabilising materials, the ionic composition of the liquor, the length of aging, storage temperatures, contact with direct sunlight during storage, and the quality of the container material.

All of these factors must be taken into account when developing a new type of beverage and predicting the stability of its organoleptic and physicochemical characteristics. This will help to ensure that the nutritional value is maintained throughout the guaranteed shelf life, as well as to select the appropriate materials for filtration, purification, stabilisation and packaging.

In this regard, it is important to study the impact of external factors on the quality of liqueur during storage.

To achieve this goal, a series of experiments on the storage of liqueur under different conditions was planned, where the variables were the transparency of the container, temperature and storage time. The experimental data were processed using Statistica 14. As a result, a mathematical model was created that allows us to assess the impact of each factor and their interaction on the quality of liqueur.

As a result of the work, rational storage regimes for the liqueur were established, which ensure stable quality characteristics of the product throughout its shelf life.