



photo: Meistermarken

Fruity enjoyment

FRUIT FILLINGS MUST BE READY-TO-USE, FREEZE-PROOF, AND EASY TO PROCESS AND HAVE A TYPICAL FRUIT FLAVOR

+ Fruit fillings such as apple, cherry or apricot are classical products and their use in respective baked goods must not only taste good when fresh fruits are available on the market. Therefore, most bakeries use ready-to-use fruit preparations. They can be used to fill baked goods without much effort and are therefore independent from the fresh fruit supply. Apart from savings in time, the ready-to-use products offer some other benefits:

They are always available, can be used in baked and unbaked products, can be easily stored, have a prolonged shelf life, and they satisfy with their versatility and uniform quality. In general, fruit preparations used for the improvement of baked goods are made from fruits or fruit components and sugars. Furthermore, the manufacturer will add flavoring and coloring substances, thickeners and edible acids during production. The final product determines which type of fruit filling will be used in the bakery. There are products where the filling is baked with the products (fruit filled cookies) and products that are filled after baking (fruit filled doughnuts).

Composition

According to German food legislation, the main portion of a fruit filling consists of fruit and/or fruit preparation or fruit paste. Only mature fruits are processed for the filling to ensure optimum flavor development. Manufacturers prefer to use frozen fruit as a basis because taste and vitamin content can be almost completely maintained during storage. Other ingredients are sugars such as sucrose, glucose syrup or sweeteners. Sugar addition to fillings improves the taste and reduces the water activity of the product. Furthermore, acid regulator or acidulants such as citric, malic, lactic or tartaric acids are used to reduce the filling's pH and improve the shelf life. Stabilizers (modified starches, pectin, alginates, carrageen or galactomannan) provide for proper texture and baking stability of the filling. For less concentrated fruit preparation, modified starches are added to achieve the desired viscosity. For highly concentrated fruit preparations (25-40° Brix), pectins are used, partly to provide for baking stability. To improve the color of

the filling, manufacturers rely for some products on coloring food such as cherry and elderberry juice and flavorings.

Manufacture

The fruit preparation is preserved by sugars and acids. To extend the shelf life, a heating step is required during which color and flavor of heat-sensitive fruits will be impaired. Prior to the heating, the ingredients (fruits, sugar, acid regulator) are mixed. The mass is cooked for three minutes, after which the stabilizers are added, mixed in and the mass is reheated. The ingredients can either be cooked in an open vessel, under vacuum or in a continuous flow process. The first quality control (pH, °Brix) takes place right after the cooking, after which the filling is cooled down. The second quality control is done with the cold products (water activity, taste, texture, odor). Subsequently, the product can be filled into the respective containers either with a cold-aseptic filling process or reheated and filled hot. Fruit fillings are available in cans, buckets, containers or as a bulk material in tank trucks.

Requirements

Fruit fillings for baked goods must meet some requirements to ensure proper processing. The fillings must be homogeneous and easy to pump. Furthermore, the sensory properties such as taste, color and texture must be met. In addition, the filling must fulfill the customer's requirements in terms of baking strength, freeze/thaw stability, and sliceability so that the customer has confidence in a ready-to-use fruit product.

References

- +** Früchte und deren Zubereitung für Bäckerei und Konditorei vom Backmittelinstitut
- +** Lecture held by Bernd Sladky (Zentis GmbH & Co. KG, Aachen) during the 55. Baking Technology Meeting in Detmold, Germany, 2004 **+++**

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