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QUALITY INDICATORS OF FLAVORINGS ADDED TO ICE CREAM

Barnokhon Sattarova
Doctor of Philosophy (PhD), Fergana Polytechnic Institute, Ferghana, Uzbekistan; E-mail: b.sattarova@ferpi.uz

Ismoilova Farangiz
Master's Degree Student, Fergana Polytechnic Institute, Ferghana, Uzbekistan

Abstract
This article discusses the types of flavourings in ice cream, the pros and cons of using emulsifiers, their quality indicators, the role of flavourings in improving the taste of ice cream.

Keywords: flavourings, emulsifiers, vanillin, alginine, croginine, flavouring and colouring emulsifiers, stabilizers, emulsifiers, flavour enhancers.

Introduction

Various additives are used to enrich the ice cream and improve its quality. However, overuse of such supplements can have a negative impact on human health. Emulsifiers, which are flavouring substances, are also one of the chemicals added to ice cream.

Emulsifiers are substances that allow you to reduce the surface tension of a liquid product. Decorators, nutrients, oils and colour emulsifiers are mainly used to make ice cream to enrich its composition and improve its quality. Some emulsifiers are more expensive than the product. Emulsifiers used in the manufacture of ice cream can be divided into four groups.

- glycerin ether,
- sorbitol ether,
- sugar ether,
- esters and other compounds.

These emulsifiers ensure that the colour of the ice cream is beautiful, the taste is pleasant and the shape is beautiful. Vitamin D, which is added to dairy products as the main raw material for making ice cream, prevents rickets and bone fragility in children. Colouring emulsifiers are used to make chemicals look like natural foods.

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For example, in the preparation of orange ice cream, some emulsifiers, such as orange, make the product more beautiful.

Stabilizers and thickeners are used to easily mix the ingredients in the ice cream. Krojinin, the most commonly used stabilizer for chocolate ice cream, prevents the product from condensing. Pectin and gelatins are also added to ice cream and ice cream cocktails. It's hard to find a modern ice cream without stabilizers. Stabilizers and thickeners help maintain the shape of the ice cream. The role of a gelatin stabilizer in ice cream is to prevent the formation of coarse ice crystals, preserve fine tissues and reduce the rate of melting.

Ice creams made from emulsifiers, flavourings and vegetable oils are not recommended for young children. Because such ice creams contain chemical additives, as well as sweet-tasting compounds, they can cause various allergic reactions in children. The Aljin emulsifier, which is added to ice cream, allows the ingredients in the product to mix and harden. The name of the ice cream should indicate its fat content. Particular attention should be paid to the rules of the use of flavourings.

Table 1. Depending on the type of ice cream, flavourings look like this:

The name of the type of ice cream	Flavourings %
Milk ice cream	7.5% until
Creamy ice cream	8 % until
Ice cream ice cream	20% until

According to GOST, ice cream should be made from sour cream or milk, natural flavourings, butter and eggs. Natural flavours are obtained physically from plant or fruit raw materials. The presence of palm oil in ice cream reduces the consumption of ice cream and reduces its cost. Quality ice cream should be the same colour. Yellowing is a sign of high-fat content in ice cream. If there is a white layer of icing on the icing, it is poor quality ice cream.

Table 2. The following raw materials are used in the production of ice cream.

Pure milk	Butter	Whey	Sugar
skim milk	fats	protein concentrates	Patoka
condensed milk	mixed oils	pectin	honey
berries	egg products	fruits	various syrups
dried milk	walnuts	chocolate	aromatic substances
stabilizers	essential	vanillin	colouring agents

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In addition to these products, other products are used in the production of ice cream, and these are:

Dyes - Natural dyes contain biologically active, aromatic and fragrant substances. It is also advisable to use natural dyes in the production of ice cream. There are synthetic dyes. Nowadays, the use of such paints is becoming more popular. Their main advantage over natural dyes is their rich colour and long shelf life.

Emulsifiers and antioxidants are derived from vegetable oils. Egg white is a natural emulsifier. Recently, synthetic emulsifiers are increasingly used in industrial production.

Flavour enhancers - their goal is to make ice cream more palatable and aromatic. Type 3 supplements are used to improve the smell and taste.

- aroma and flavour enhancers,
- acidity regulators,
- Fragrances.

For example, ethyl maltol and maltol increase the aroma of creamy and fruity ice creams. These substances give fat to ice cream and yoghurt.

In addition, plant extracts, vegetable essential oils, natural infusions, fruit and berry juices, syrups, as well as aromatic essences or individual aromatic substances can be used as flavourings for ice cream. Artificial flavours contain at least one artificial substance that does not exist in nature. Depending on their chemical structure, synthetic fragrances can have different natures: alcohols, aldehydes, and esters of organic acids. Fragrances are available in liquid and powder form. Historically, liquid flavours have been called food flavour essences. Aromatization practically does not complicate the production process. The aroma can be added to ice cream as a dilute or concentrated solution (suspension) in an appropriate solvent. The time of addition of flavour to a particular product is determined by the production technology. The choice of flavouring agent for ice cream is determined by the physicochemical properties of the product and the technology of production. It is advisable to add flavourings as a last resort when the ice cream mass has cooled. If the cream is boiling, refrigerate the ice cream before placing it in the refrigerator. It should be left overnight, which will result in a smooth and creamy texture when the ice cream is frozen.

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Conclusion

However, it should be borne in mind that the effect of the flavouring agent on the organoleptic properties of ice cream can be fully assessed only by the results of tasting the finished product. It should also be noted that the use of flavours permitted for flavouring ice cream products may not be used for flavouring other types of food without proper permission.

It is also important to take into account the toxicological specificity of food flavourings, as the compounds included in the aromatic composition are physiologically insensitive to the body and can affect metabolic processes. Because even their very low concentrations are biologically active substances.

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