FREQUENTLY ASKED QUESTIONS

Q1. What is the role of fat in ice cream?

The fat is the basic ingredient in ice cream. Fat makes up about 10 – 15 % of an ice cream mix. The is important to ice cream for the following reasons

1. Increases the richness of flavor in ice cream
2. Produces a characteristic smooth texture by lubricating
3. Helps to give body due to its role in fat destabilization
4. Aids in good melting properties due to its role in fat destabilization
5. Aids in lubricating the freezer barrel during manufacturing during manufacturing (Non-fat mixes are extremely hard on the freezing equipment

Q2. Name some stabilizers used in ice cream?

Carrageenan, Locust bean gum, Guar gum, carboxymethyl cellulose (CMC), Xanthan gum.

Q3. What is benefits of Solid not fat(SNF) in ice cream?

It improves the texture of ice cream due to the protein functionality, helps to give body and chew resistance to the finished product, capable of allowing a higher overrun without the characteristic snowy or flaky textures associated with high overrun, due also to the protein functionality and may be a cheap source of total solids, especially whey protein.

Q4. **Name the factors which should be take in consideration while selecting fat for ice cream?**

1. Crystal structure of the fat
2. The rate at which the fat crystallizes during dynamic temperature

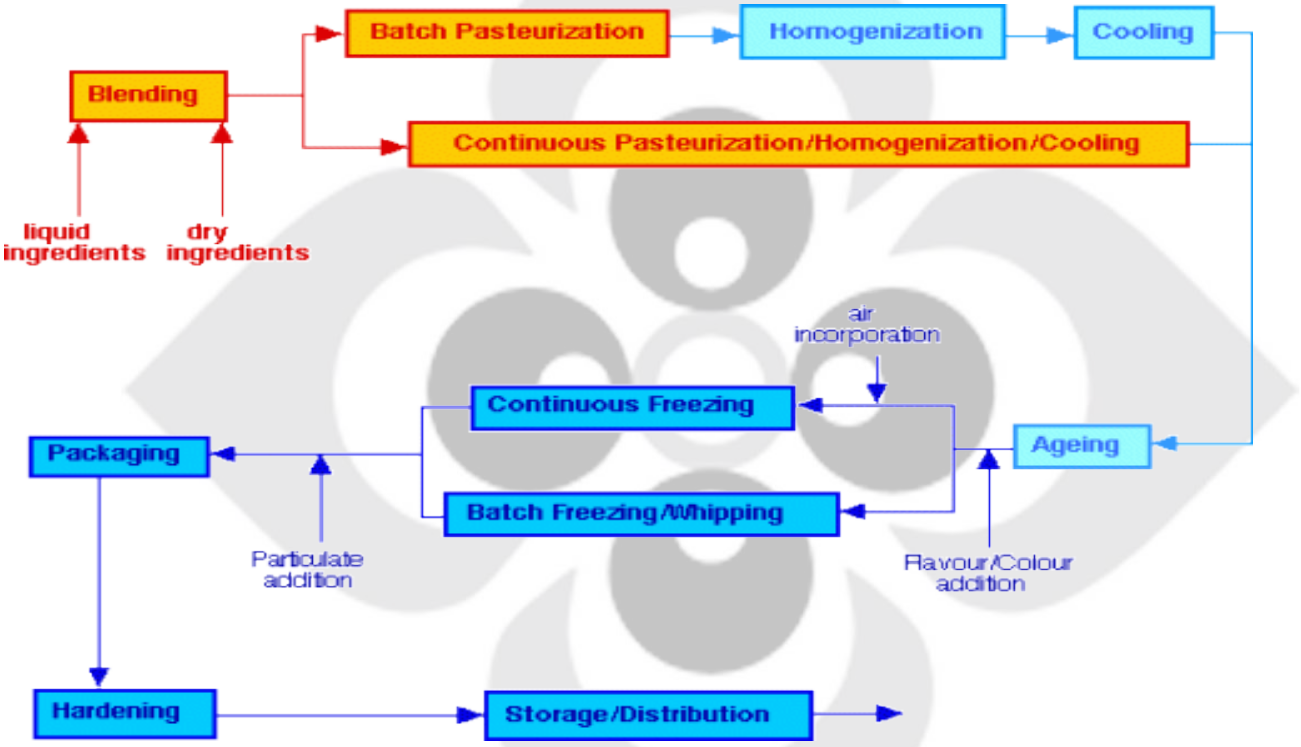
conditions

3. The temperature dependent melting profile of the fat (at chilled and freezer temperatures)

1. The content of high melting triglycerides which can produce a waxy, greasy mouthfeel

2. Flavor and purity of the oil

Q5. Draw the flow diagram for steps involved in manufacturing of ice cream?



Q6. What is the importance of homogenization in ice cream manufacturing?

Ans: The ice cream mix is also homogenized which forms the fat emulsion by breaking down or reducing the size of the fat globules found in milk or cream to a less than 1 μm.

Reduces size of fat globules

Increases surface area

Forms membrane

Makes a smoother ice cream

Gives a greater apparent richness

Better air stability

Increases resistance to melting.

Q7. Define high acid (sour) ice cream?

This is one of the defects caused by bacteria when due to favorable temperature and length of

storage they are given an opportunity to multiply. Depending on the specific bacteria present, the

acid development may be accompanied by other off-flavors of an unpleasant and generally

unclean character. Some acid producing bacteria also produce a malty flavor

Q8. Explain the storage defect in ice cream?

On storage, the flavor of ice cream may undergo chemical changes and the product may absorb odors from the surrounding atmosphere. The flavor may lack the luster of the fresh product, in evident and the criticism becomes storage flavor. Oxidation may also take place giving rise to an oxidized flavor

Q9. Define stabilizers?

A stabiliser is a substance that has the ability to bind water when dispersed in a liquid phase. This is called hydration and means the stabiliser forms a matrix that prevents the water molecules from moving freely.

Q10. Explain the meltdown characteristics of ice cream?

These are observed by the consumer when a serving is not completely consumed. Products may vary in the rate of meltdown and the appearance of the melted portion. Ideally, ice cream should melt to a liquid of the consistency of the mix from which it was made. An old ice cream or one that has been highly stabilized tends to melt slower

Q11. What are the defects due to dairy ingredients in ice cream?

High acid (sour) taste, oxidized or stale- metallic taste, Rancid taste, Cooked taste.

Q12. Write a note on the defects due to sweetening agents in ice cream?

In addition to being excessive or deficient, sweetness can also be uncharacteristic. A syrupy flavor suggests caramelization. It may detract from the fine flavor of the flavoring ingredients, particularly vanilla. Defective syrups may also impart a fermented flavor to the ice cream