

Recurring difficulties in ice cream making



Problem	Cause	Solution
You discover bacteria after a microbiological analysis of your ice cream	<ul style="list-style-type: none"> • Unsanitary tools • Poor personal hygiene • Contaminated raw materials • Unsanitary processing 	<ul style="list-style-type: none"> • Pay more attention to your personal hygiene and the cleanliness of your instruments, raw materials and workshop.
Your ice cream is too hard and dense	<ul style="list-style-type: none"> • A low amount of sugars and total solids in the ice cream mixture • Inadequate stabilisers and emulsifiers • Storage in a dry display counter • A low amount of proteins in the ice cream mixture 	<ul style="list-style-type: none"> • The quantity of sugars in your ice cream mixture should amount to min. 16% while the amount of total solids may not be less than 32%. You can use dextrose, glucose syrup or invert sugar to replace part of the sucrose in order to raise the FP of your ice cream mixture. • Use the correct emulsifiers and stabilisers for your type of ice cream (e.g. fruit-flavoured or milk-based ice cream). • Readjust the relative humidity of your display counter.
Your ice cream is too soft	<ul style="list-style-type: none"> • Your final FP is too high • Your ice cream is extruded from the ice cream machine at a temperature close to -5/-6°C 	<ul style="list-style-type: none"> • Re-evaluate the quantities and types of sugar you use in your mixture. • Lower the final FP of your ice cream mixture.
Your ice cream is too cold to the palate	<ul style="list-style-type: none"> • Your ice cream recipe contains little fat • The sugar content of your ice cream mixture is too high • Water is a substantial ingredient in your ice cream recipe • Little overrun during churning • Your ice cream recipe contains few proteins • The total amount of solids in your ice cream mixture is too low 	<ul style="list-style-type: none"> • Increase the amount of fats and total solids in your ice cream mixture. • Increase the amount of proteins in your ice cream mixture to facilitate the incorporation of air bubbles.



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Your ice cream melts too easily	<ul style="list-style-type: none">• Your ice cream mixture contains too few proteins• The proteins in your ice cream mixture don't hydrate well• The sugar content of your ice cream mixture is too high• Your ice cream mixture contains alcohol• The temperature of your display counter is off	<ul style="list-style-type: none">• Lower the amount of sugars in your ice cream mixture.• Increase the total amount of solids in your ice cream mixture.• Reduce the amount of alcohol in your ice cream mixture.• Use a thermometer to make sure that the temperature inside your display counter ranges between -13 and -15°C.
Your ice cream is spongy	<ul style="list-style-type: none">• Your ice cream mixture isn't balanced out• Your ice cream mixture contains too much egg yolk or too many stabilisers• The stabilisers in your ice cream mixture are inadequate	<ul style="list-style-type: none">• Rebalance your ice cream mixture.• Decrease the amount of egg yolk or stabilisers in your ice cream mixture.• Use other stabilising agents in your ice cream mixture.
Your ice cream is grainy	<ul style="list-style-type: none">• The amount of lactose in your ice cream mixture is too high• The amount of milk powder in your ice cream mixture is too high• Your display counter suffers from abrupt temperature swings• The amount of sucrose in your ice cream mixture is too high• Other possibilities: structural defects	<ul style="list-style-type: none">• Lactose has low solubility and part of the water in which it is dissolved passes into solid state during the freezing phase, causing crystallisation. Therefore, use milk powder moderately. It contains more than 50% lactose.• Replace part of the sucrose with dextrose, glucose syrup or invert sugar.
Your ice cream is too greasy	<ul style="list-style-type: none">• An excessive amount of fat in your ice cream mixture• Too few non-fat milk solids in your ice cream mixture• Inadequate homogenisation	<ul style="list-style-type: none">• Re-evaluate the amount of fats and non-fat milk solids in your ice cream mixture.• Cool your ice cream mixture properly before freezing.
Your ice cream is rubbery	<ul style="list-style-type: none">• Excessive amount of stabilisers in your ice cream mixture• Inadequate stabilisers• Too much protein in your ice cream mixture	<ul style="list-style-type: none">• Reduce the amount of stabilisers in your ice cream mixture.• Use other stabilising agents in your ice cream mixture.• Re-evaluate the amount and the quality of the proteins in your ice cream mixture.
Your ice cream tastes stale	<ul style="list-style-type: none">• Oxidation of the milk fats in your ice cream mixture• Stale or poorly preserved ingredients in your ice cream mixture• Lengthy storage in the metal trays of the display counter	<ul style="list-style-type: none">• Use stainless steel trays.• Check the freshness and storage conditions of your ingredients.• Prepare your ice cream just before serving.
Your ice cream has a metallic taste to it	<ul style="list-style-type: none">• Rust in the ice cream containers• Use of old machinery or machinery that is in bad shape• Use of new tools or new ice cream containers that are badly washed• The dairy products in your ice cream mixture have been in contact with metallic materials	<ul style="list-style-type: none">• Use adequate equipment and ice cream containers.• Wash your new equipment with detergent.• Check the storage conditions of your raw materials.
Your ice cream has a cooked taste to it	<ul style="list-style-type: none">• Pasteurisation at a temperature that is too high or inadequate stirring during the pasteurisation phase• Repasteurisation• Use of dairy products with a cooked taste, e.g. some UHT products	<ul style="list-style-type: none">• Check the temperature and stir the mixture uninterruptedly during the pasteurisation phase.• Check the taste of your raw materials.• Use fresh milk or fresh cream.
Your ice cream tastes of milk powder	<ul style="list-style-type: none">• Too much milk powder in your ice cream recipe• Use of low-quality or stale milk powder	<ul style="list-style-type: none">• Reduce the amount of milk powder in your ice cream recipe.• Check the quality of your milk powder and keep it in optimal storage conditions, away from light and oxygen.