

SWEETENERS

**CHEF'S TIP**

Before removing the liquid glucose with bare hands, **always** wet your hands with water, or it will stick to your hands.

Sweeteners are the soul of all desserts. When we refer to desserts, they have to be sweet. Sugar is one of the most important ingredients used in confectionery and its usage is not only limited to providing sweetness, but it has various other uses such as altering the texture of products, giving colour to the baked goods, etc. Sugar also delays the coagulation of proteins in eggs and

promotes the aeration in a product, etc. It is available in various forms such as grain sugar, icing sugar, breakfast sugar and this categorization is basically done on the shape and size of the sugar crystals. Apart from these there are still various other types of sweeteners used in cooking, especially confectionery. Honey, corn syrup, treacle, etc. are other very commonly used sweeteners in cooking and the choice would depend upon the kind of texture the final product is aimed at. For example, while making meringue the sugar crystals will not dissolve by the time meringue is completed, and usage of any other sugar apart from icing sugar in butter cream will form small crystals, which will give a grainy finish to the cake. Sugar also lowers the freezing point in ice creams and hence, we must be careful in adding the amount of sweeteners in ice cream—less will make it set like ice and more will hamper the setting of an ice cream.

Let us discuss various types of sweeteners commonly used in baking and cooking in Table 18.11.

Table 18.11 Types of sweeteners used in cooking

Type of Sweetener	Description
Granulated sugar	Sugar crystals usually obtained from sugarcane. This is the regular white sugar which is used in homes. Usage of this sugar will find its place in any preparation which has sufficient liquid to dissolve it. For example, whipping eggs, making sugar syrups, cooking <i>sabayon</i> over double boilers, etc.
Castor sugar/Breakfast sugar	It is commonly used in breakfast, for tea and coffee. It is a small evenly graded sugar crystal which dissolves quickly and is easier to dissolve in the creaming methods. It is more expensive and hence should not be substituted for grain sugar.
Icing sugar	Granulated sugar is crushed into fine powder and has a small percentage of corn starch added to keep it smooth and free flowing. Icing sugar is used for creaming methods where it would be used as icing for cakes and pastries. Icing sugar can also be sifted on top of dry baked sweet products as a garnish.
Brown sugar	This is a granulated sugar which is available in variety of shades of brown. The darker brown sugar is also known as 'demerara sugar' and darker the colour, more pronounced is the flavour. Brown sugar is the residual sugar obtained during the process of refining sugar. Many people mix the granulated sugar with caramelized black sugar syrup to colour the sugar; but the flavour is not the same.

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Table 18.11 (Contd)

Type of Sweetener	Description
Golden syrup	It is a thick amber coloured liquid obtained from sugar during the refining process. It is treated with acid to cut down on the sharp taste. It looks similar to honey and is used in making confectionery products.
Corn syrup	It is chemically refined syrup made from corn kernels. This is usually obtained as a clear liquid and the coloured corn syrup is artificially coloured. It is very sweet and contains high amount of fructose. It is a common ingredient in processed foods and beverages.
Maple syrup	It is natural sweetener and is a sap of maple tree. It is boiled down to thick syrup. Pure maple syrup is very expensive, as to obtain 1 litre of maple one has to boil down at least 40 litres of maple sap. The commercial maple syrups are corn syrups with a percentage of maple syrup added to them. It could be added in the range of 2–6 per cent. The percentage of the maple is always mentioned on the bottle and this decides the price of the product.
Treacle	When the sugarcane juice undergoes refining, it undergoes many stages. In the first stage the white sugar or the raw sugar is removed. The remaining sugar syrup is used to make treacle which is stronger than golden syrup but less than molasses.
Honey	Honey is a natural sugar obtained from bee hives. The colour and flavour of honey will vary with its source. Some commercial honey farms allow bees to suck the nectar from only one particular flower to produce the honey of that flavour. One can use honey in most of the baked products but care has to be taken as honey can caramelize even at lower temperatures.
Date sugar	It is obtained from drying and pulverizing dates. It is very sweet and although it does not dissolve very well, it is used in many baked products.
Palm sugar	Palm sugar is traditionally made from the sap of palmyra palm or the date palm. It is extensively used in Asian cooking, especially Thai. Nowadays sugar from sago and coconut is also made and sold as coconut sugar and sago sugar.
Jaggery	Jaggery is a product made in India, Africa, and South America. It is produced from sugarcane and is healthy and nutritious as the whole sugarcane juice is cooked with molasses. The colour of the jaggery or <i>gur</i> , as commonly known in India, can be light to dark depending upon the degree of cooking.
Molasses	Molasses is the by-product of sugar from sugarcane. There are three stages of refining of sugar and with every stage a residual sweetener is left behind which is known as molasses. As the stages increase, the colour and the flavour of the molasses become more strong and darker.
Invert sugars	These are sucrose-based syrups that are treated with acids or chemicals. The acid breaks the sucrose molecule into glucose and fructose. Since there are now two molecules of sugar it will be sweeter than sucrose. Corn syrup is a type of invert sugar and this property of inverting sugar does not let the sugar to crystallize easily and hence the product stays moist.

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Table 18.11 (Contd)

Type of Sweetener	Description
Liquid glucose	Liquid glucose is obtained by treating the corn slurry by acid—a process known as hydrolysis. This is chemically made and results in a thick viscous liquid that is used to produce candies by not allowing the sugar to crystallize and also acts as a preservative. Liquid glucose contains the dextrin gum which retards the crystallization of sugar. When added to products, it makes them pliable and hence very commonly used to prepare garnishes and decoration pieces with sugar.
Isomalt	It is a natural sugar substitute and in reality it is a sugar alcohol. It is available in crystalline forms and is used for preparing sugar garnishes as it is more stable than sugar and does not caramelize thereby giving an appearance of thin glass sheets.
Sugar substitutes	These are chemically produced and have no nutrition value at all. Saccharin and cyclamates are best known and more commonly used in food items, especially for people who are diabetic. It is slightly bitter in taste and is used as a sweetener in low calorie or diet soft drinks.