

Basic Syrups, Creams, and Sauces

Pastry and Bakery Knowledge

MUCH OF THE baker's craft consists of mixing and baking flour goods such as breads, cakes, and pastries. However, the baker also must be able to make a variety of other products, sometimes known as adjuncts, such as toppings, fillings, and sauces. These are not baked goods in and of themselves, but they are essential in the preparation of many baked goods and desserts



SUGAR COOKING

KEPADATAN TINGKAT GULA (SYRUP STRENGTH)



- Kekuatan sirup (Syrup Strength) merupakan indikasi/ patokan dalam menentukan konsentrasi gula dalam larutan. (dalam pastry & bakery, merujuk pada tingkatan gula dalam air) Dalam konsentrasi kecil, gula dapat larut dalam air hanya dengan mengaduknya. Dengan konsentrasi yang lebih dalam merebusnya, karena pada suhu yang lebih tinggi, gula larut lebih cepat.
- Setelah gula larut, kita dapat meningkatkan konsentrasi gula dengan terus merebus sirup sehingga air secara bertahap menguap. Saat air mendidih, suhu sirup berangsur-angsur naik. Ketika semua air menguap, kita dibiarkan dengan gula leleh. Gula kemudian mulai karamel, atau berubah menjadi coklat dan berubah rasa. Jika pemanasan terus berlanjut, gula terus menjadi gelap dan kemudian terbakar.

SUGAR COOKING

KEPADATAN TINGKAT GULA (SYRUP STRENGTH)



- Sirup yang dimasak dengan suhu tinggi lebih sulit jika didinginkan daripada sirup yang dimasak dengan suhu yang lebih rendah. Misalnya, sirup yang dimasak hingga 240 ° F (115 ° C) membentuk bola lunak ketika didinginkan. Sirup yang dimasak hingga 300 ° F (150 ° C) keras dan rapuh saat didinginkan.
- Pure, clean granulated sugar is used to make syrups. Impurities cloud the syrup and form a scum or foam on the syrup as it is being boiled. Any scum should be carefully skimmed off.
- Baumme Index and The Brix scale is a measure of the sugar concentration in a solution
- A simple way to measure sugar concentration is to use a hydrometer or saccharometer.



Stages of Sugar Cooking



Menguji suhu dengan Candy Thermometer adalah salah cara paling akurat untuk menentukan kematangan simple syrup. Dahulu, simple syrup diuji dengan menjatuhkan sedikit ke dalam semangkuk air dingin dan memeriksa kekerasan gula yang didinginkan.

Tahapan kematangan menggambarkan kekerasan mereka. ***Tabel The Stages of Doneness in Sugar Cooking*** di sini mencantumkan tahapan-tahapan memasak gula ini. Perlu diingat, bahwa nama untuk tahapan tidak mutlak; sumber yang berbeda mungkin menggunakan nama yang sedikit berbeda..

STAGES OF DONENESS IN SUGAR COOKING

STAGE	TEMPERATURE	
	°F	°C
Thread	230	110
Soft ball	240	115
Firm ball	245	118
Hard ball	250–260	122–127
Small crack	265–270	130–132
Crack	275–280	135–138
Hard crack	290–310	143–155
Caramel	320–340	160–170

Basic Syrups for the Bakeshop



Simple Syrup (Stock Syrup)

is a solution of equal weights of sugar and water. It is used for such purposes as diluting Fondant and for preparing a variety of dessert syrups



Dessert Syrup (Cake Syrup)

is simply a flavored simple syrup. It is used to moisten and flavor sponge cakes and various desserts, such as Babas au Rum

BASIC CREAMS

Whipped Cream



Whipped cream tidak hanya merupakan salah satu Topping dan Filling yang paling berguna, tetapi juga bahan baku utama dalam pembuatan dessert. Whipped Cream yang digunakan mempunyai kandungan lemak 30% atau lebih, tetapi lebih baik diatas 35%, hingga dapat dikocok menjadi busa. 1 liter cream bisa menghasilkan sekitar 2 -2 ½ liter whipped cream.

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Guidelines for Whipping Cream

1. Cream for whipping should be at least 1 day old. Very fresh cream doesn't whip well.
2. Chill the cream and all equipment thoroughly, especially in hot weather. Cream that is too warm is hard to whip and curdles easily.
3. Use a wire whip for beating by hand. For machine whipping, use the whip attachment and run the machine at medium speed.
4. If the cream is to be sweetened, use extra-fine granulated sugar or, for best stability, sifted confectioners' sugar.
5. The classic method of sweetening whipped cream is to add the sugar toward the end of the whipping procedure, when the cream begins to form soft peaks. However, the sugar can also be added at the beginning of the whipping process. This lengthens whipping time considerably, so is best done only in a mixer, not when whipping by hand.
6. Do not overwhip. Stop beating when the cream forms peaks that hold their shape. If the cream is whipped longer, it first becomes grainy in appearance (see illustration) and then separates into butter and whey.
7. Slightly underbeat cream that is to be folded into other ingredients, because the action of folding whips it more and may overbeat it.
8. Fold in flavoring ingredients last, after the cream is whipped.
9. If the cream is not to be used immediately, store it, covered, in the refrigerator.

Meringue



Meringues are whipped egg whites sweetened with sugar. They are frequently used for pie toppings and cake icings. They are also used to give volume and lightness to buttercream icings and to such preparations as mousses and dessert soufflés.

Another excellent use for meringues is to bake them in a slow oven until crisp. In this form, they can be used as cake layers or pastry shells to make light, elegant desserts. To add flavor to meringues, chopped nuts may be folded into them before forming and baking.

Basic Meringue Types

Meringues may be whipped to various degrees of stiffness as long as they are not overbeaten until they are too stiff and dry. For most purposes, they are beaten until they form stiff, or nearly stiff, moist peaks.

- **Common meringue**, also called *French meringue*, is made from egg whites at room temperature, beaten with sugar. It is the easiest to make, and it is reasonably stable due to the high percentage of sugar.
- **Swiss meringue** is made from egg whites and sugar that are warmed over a hot-water bath while they are beaten. This warming gives the meringue better volume and stability.
- **Italian meringue** is made by beating a hot sugar syrup into the egg whites. This meringue is the most stable of the three because the egg whites are cooked by the heat of the syrup. When flavored with vanilla, it is also known as *boiled icing*. It is also used in meringue-type buttercream icings.

COMMON MERINGUE (FRENCH MERINGUE)

Ingredients	U.S.	Metric	%	PROCEDURE 1. With the whip attachment, beat the egg whites first at medium speed, then at high speed, until they form soft peaks. 2. Add the first quantity of sugar, a little at a time, with the machine running. Whip until stiff. 3. Stop the machine. Fold in the remaining sugar with a spatula.
Pasteurized egg whites (see <i>Note</i>)	8 oz	250 g	100	
Fine granulated sugar	8 oz	250 g	100	
Fine granulated sugar or sifted confectioners' sugar (see <i>Note</i>)	8 oz	250 g	100	
Total weight:	1 lb 8 oz	750 g	300%	
NOTE: If the meringue is to be fully cooked at a later stage of preparation, regular unpasteurized egg whites may be used. For soft meringue pie toppings, the second quantity of sugar may be omitted.				
VARIATION				
CHOCOLATE MERINGUE				
Ingredients	U.S.	Metric	%	
Cocoa powder	4 oz	125 g	25	
Use the confectioners' sugar in step 3 of the basic formula. Sift the sugar twice with the cocoa powder.				

SWISS MERINGUE

Ingredients

U.S.

Metric

%

Pasteurized egg whites (see *Note*)

8 oz

250 g

100

Fine granulated sugar or
half granulated and half
confectioners' sugar

1 lb

500 g

200

Total weight:

1 lb 8 oz

750 g

300%

NOTE: If the meringue is to be fully cooked at a later stage of preparation, regular unpasteurized egg whites may be used.

PROCEDURE

1. Place the egg whites and sugar in a stainless steel bowl or in the top of a double boiler. Beat with a wire whip over hot water until the mixture is warm (about 120°F/50°C).
2. Transfer the mixture to the bowl of a mixing machine. Whip it at high speed until stiff peaks form and the meringue is completely cool.

ITALIAN MERINGUE

Yield: about 2 qt (2 L)

Ingredients	U.S.	Metric	%
Sugar	1 lb	500 g	200
Water	4 oz	125 mL	50
Egg whites	8 oz	250 g	100

PROCEDURE

1. Heat the sugar and water in a saucepan until the sugar dissolves and the mixture boils. Boil until a candy thermometer placed in the syrup registers 243°F (117°C).
2. While the syrup is cooking, beat the egg whites in a mixing machine until they form soft peaks.
3. With the machine running, very slowly beat in the hot syrup (a).
4. Continue beating until the meringue is cool and forms firm peaks (b).



Guidelines for Making Meringues

1. Fats prevent whites from foaming properly. This is very important. Make sure all equipment is free of every trace of fat or grease, and that the egg whites have no trace of yolk in them.
2. Egg whites foam better if they are at room temperature than if they are cold. Remove them from the cooler 1 hour before whipping.
3. Do not overbeat. Beaten egg whites should look moist and shiny. Overbeaten meringues look dry and curdled; they are difficult to fold into other ingredients and have lost much of their ability to leaven cakes and soufflés.
4. Sugar makes egg white foams more stable. Meringues are thicker and heavier than unsweetened egg white foams, and they are more stable. However, egg whites can hold only a limited amount of sugar without sacrificing volume. For this reason, when making common meringues, many cooks prefer to whip the egg whites with no more than an equal weight of sugar. Additional sugar can be folded in after the meringue is whipped.
5. Mild acids help foaming. A small amount of cream of tartar or lemon juice is sometimes added to egg whites for whipping in order to give them more volume and stability. This is especially helpful when the whipped whites are folded into other ingredients to provide lightness or leavening, as in the case of angel food cakes. Use about 2 teaspoons cream of tartar per pound of egg whites (15 /kg).



MERINGUES AND FOOD SAFETY

The danger of salmonella poisoning is well known. For this reason, pasteurized eggs products must be used in all preparations in which the eggs are not cooked before being served.

Because eggs coagulate at a fairly low temperature, they must be pasteurized using low heat. In order for low heat to be effective at killing bacteria, they must be held at this temperature for a long time—for example, 130°F (54°C) for 45 minutes.

Common meringue is not heated during production. Therefore, common meringues should be made with pasteurized egg whites if they are to be eaten without further cooking.

Swiss meringue is warmed during production, but it may not be warmed enough to be safe. Like common meringue, it should be made with pasteurized eggs if it is to be eaten without further cooking.

Italian meringue, on the other hand, is thoroughly cooked by hot syrup, so it may be eaten without further cooking, as long as all food safety procedures are followed

Crème Anglaise



Crème Anglaise (pronounced *krem awn GLEZZ*), also known as *vanilla custard sauce*, is a stirred custard. It consists of milk, sugar, and egg yolks stirred over very low heat until slightly thickened, then flavored with vanilla.

Crème Anglaise is used not only as a dessert sauce but also as a component of many other preparations. Such as Bavarian creams, ice creams, and *crèmeux* .

CRÈME ANGLAISE				
Yield: about 2½ pt (1.25 L)				
Ingredients	U.S.	Metric	%	PROCEDURE
Egg yolks	8 oz (12 yolks)	250 g (12 yolks)	25	
Sugar	8 oz	250 g	25	
Milk (see first variation below)	2 lb (1 qt)	1 L	100	
Vanilla extract	0.5 oz (1 tbsp)	15 mL	1.5	
VARIATIONS				
For a richer crème anglaise, substitute heavy cream for up to half the milk.				
To flavor with a vanilla bean instead of vanilla extract, first split the bean in half lengthwise (a). Scrape the pulp from inside the bean with a paring knife, as shown in the illustration (b). Add the pulp and the split bean to the milk before heating it in step 3.				
				1. Review the guidelines for preparing crème anglaise preceding this recipe.
				2. Combine the egg yolks and sugar in a stainless steel bowl. Whip until thick and light.
				3. Scald the milk in a boiling-water bath or over direct heat.
				4. Very gradually pour the hot milk into the egg yolk mixture while stirring constantly with the whip.
				5. Set the bowl in a pan of simmering water. Heat it, stirring constantly, until it thickens enough to coat the back of a spoon or until it reaches 180°F (82°C).
				6. Immediately remove the bowl from the heat and set it in a pan of cold water to stop the cooking. Stir in the vanilla. Stir the sauce occasionally as it cools.

Pastry Cream

Although it requires more ingredients and steps, **Pastry Cream** is easier to make than **Crème Anglaise** because it is less likely to curdle.

Pastry cream, also called **Crème Pâtissière**, contains a starch-thickening agent that stabilizes the eggs.

It can actually be boiled without curdling. In fact, it must be brought to a boil or the starch will not cook completely and the cream will have a raw, starchy taste. It may be necessary to boil the cream for up to 2 minutes to eliminate the taste of the starch.

Ganache



Ganache (pronounced gah NAHSH) is a rich chocolate cream with many uses, including as a glaze, icing, or filling for cakes and pastries, and as a base for confections. It is one of the fundamental pastry preparations..

In its most basic form, **ganache** is a smooth mixture of heavy cream and **chocolate couverture**. The exact proportions of cream and chocolate depend on its intended use. Equal parts chocolate and cream make a soft **ganache** suitable for using as a glaze, while two parts chocolate to one part cream make a firm **ganache** that can be used for truffles and other confections.

DESSERT SAUCES

in addition to the recipes presented in this section, the following types of dessert sauces are discussed elsewhere in this book or can be made easily without recipes.

Custard Sauces.

Vanilla custard sauce, or *Crème Anglaise*, It is one of the most basic preparations in dessert cookery. Chocolate or other flavors may be added to create variations.

Pastry Cream can be thinned with heavy cream or milk and, if necessary, more sugar, to make another type of custard sauce.

Chocolate Sauce

In addition to the three recipes that follow, chocolate sauce may be made in several other ways. For example:

- Flavor Crème Anglaise with chocolate
- Prepare Chocolate Ganache. Thin to desired consistency with cream, milk, or simple syrup

Lemon Sauce

Same Recipe as Lemon Filling, but use only use half the dose of cornstarch

DESSERT SAUCES (Cont...)

Fruit Sauces

Some of the best fruit sauces are also the simplest. These are of two types:

Purées of fresh or cooked fruits, sweetened with sugar. Such a purée is often called a coulis

Heated, strained fruit jams and preserves, diluted with simple syrup, water, or liquor

Caramel Sauces.

The simplest caramel sauce is merely caramelized sugar diluted with water to sauce consistency. The addition of heavy cream makes a creamy caramel sauce

Two methods are possible for caramelizing sugar. 1. the wet method 2. the dry method

Sabayon

is a foamy sauce made by whipping egg yolks with a liquid, often wine or liqueur.

There are two recipes of sabayon, one made without wine and a more traditional one made with wine



Thank you!



Any questions?

