

### **S3 and 4 FOODS AND NUTRITION**

#### **Classification of cakes**

Cakes are classified according to the methods by which the fat is incorporated : this is dependent upon the proportion of fat in the mixture. These are

1. rubbed-in , or plain , mixtures
2. creamed, or rich , mixtures
3. melted fat mixtures
4. whisked, or sponge , mixtures which contain no fat

**Rubbed in or plain, mixtures** is where the fat is half to flour or less and the fat is rubbed into flour. As cake mixture becomes plainer the proportion of flour to that of fat (and eggs )increases, and in general a plain cake is one in which the weight of fat is less than half the weight of flour. In plain cakes eggs cannot provide enough aeration, and baking powder must be used. In the plainest mixtures , such as muffins, baking powder provides all aeration, and so a greater amount is needed.

In making a plain cake the flour is sifted together with baking powder into a dry bowl . salt is then added. The fat is rubbed into the flour until the mixture resembles fine bread crumbs. The sugar and other dry ingredients such as fruit and flavourings are added. Beaten egg/s added and the required amount of liquid to the flour mixture. Mix with a fork to a soft , rather, sticky dough. The fork should be able to stand upright in it. Divide into equal portions and place on a greased baking tray. Or drop from a spoon into a greased tin. Bake in a fairly hot oven .

#### **Faults and their causes**

##### **Coarse , open texture:**

- a too much raising agent
- b too hot an oven
- c insufficient mixing –in of liquid

##### **Heavy texture**

- a insufficient raising agent
- b too cool an oven
- c incorrect proportion of fat to flour
- d. too much liquid
- e fat becoming oily while being rubbed in.

##### **Dry texture**

- a too little liquid
- b too much raising agent
- c insufficient quantity of eggs
- d over- cooking.

##### **Large holes throughout the cake, giving very uneven texture:**

- a fat insufficiently rubbed in.
- b mixture transferred to the tin in small portions, trapping air between them.

Small buns burnt underneath and pale on top:

- a buns placed too low in the oven
- b tray placed over the flame , thus becoming very ho and preventing proper circulation of heat in oven.

##### **Small buns spreading on the tin:**

- a too much grease on tin
- b too slack a mixture

c too cool an oven

**Large cake rising to a peak in the middle:**

- a cake being placed too high in the oven
- b oven too hot at first but turned down before too much harm was done
- c mixture not leveled before cooking.

**Large cake rising unevenly.**

- a cake placed at one side of the oven instead of in the middle
- b too much raising agent
- c oven not heated to the correct temperature before cake was cooked.

**Large cake sinking in the middle:**

- a too slack a mixture
- b too much raising agent
- c opening oven door before cake had 'set', or perhaps slamming door shut
- d too cool an oven
- e insufficient cooking
- f draught through the kitchen.

**Fruit in large cake sinking to the bottom:**

- a too slack a mixture
- b fruit wet when added to the mixture
- c cake cooked in too cool an oven so that the mixture is not set quickly enough to support the fruit.

**USES OF RUBBED- MIXTURES**

Rock buns, raspberry buns, fruit buns(currants, sultana, dates, cherry), coconut buns; chocolate or coffee cakes; almond, lemon, orange cakes

**Creamed, or Rich cakes**

In these the amount of fat is from half to equal that of flour and therefore it cannot be rubbed in. That of sugar is equal to that of fat and the number of eggs used is from 4 to 12 to each 500g of flour. As the number of eggs is increased the amount of raising agent is correspondingly decreased, as eggs can hold whipped – in air. Fat also can hold beaten- in air when creamed. The cake made by this method are known as the richer type because the weight of the fat and the sugar is more than the weight of the flour. Note 'plainness' or richness' of cake mixtures refers to the proportion of fat in the mixture and has nothing to do with the addition of fruit.

**Principles of creaming method.**

1. Cream the fat and sugar well until the mixture is light, fluffy and white in colour.
2. Break eggs into a bowl. Beat and add a little at a time to the creamed mixture . This will prevent curdling.( curdling is caused when the coldness of the egg separates the fat from sugar by solidifying it) If mixture curdles, beat it well over a bowl of warm water to re- blend the fat
3. Divide the sieved flour into portions and add in gradually, portion by portion, to the creamed mixture. Use a metal spoon to fold in.
4. The mixture should just drop off the spoon off the spoon when a very slight flick is given.
5. Place mixture in greased and lined cake tin.
6. Bake in a fairly hot oven until firm. For large cakes without fruit reduce heat and cook till cooked

**Faults and their causes**

**1. Heavy, close texture:**

- (a) insufficient creaming of the fat and sugar and consequently little air being beaten into the mixture.

- (b) insufficient being during the addition of the eggs, again decreasing the possible inclusion of air.
- (c) insufficient cooking
- (d) too much liquid
- (e) oven too cool , so that the air did not expand to its fullest extent before the mixture set.
- (f) oven too hot , setting the mixture on the outside before full expansion of air has taken place.
- (g) too little raising agent

**2. Coarse , open texture:**

- (a) too much raising agent
- (b) insufficient creaming
- © too hot an oven
- (d) incorrect proportion of fat to flours

**3. Dry texture**

- (a) too much raising agent
- (b) cooking too slowly

**4. uneven rising:**

- (a) cake badly placed in the oven , i.e to one side instead of in the middle.
- (b) oven not heated adequately before cake was placed inside
- © oven shelf sloping

**5. Cake sinking in the middle :**

- (a) too much liquid
- (b) opening the oven door before the mixture has set
- (c) too cool an oven
- (d) removing cake from oven before it is completely cooked
- (e) too much raising agent- mixture rises too quickly and collapse the gluten has not set.

**6. Cake rising to a point and cracking:**

- (a) too hot an oven
- (b) placing cake too high in oven.

**Uses of creamed mixtures**

Chocolate, coffee, ginger cakes; coconut, almond; fruit cakes, queen cakes , Victoria sandwich , banana cakes Christmas cakes

**MELTED FAT MIXTURES**

Melt the fat, usually with sugar and/or syrup or treacle. And his in liquid form to the flour. The texture o f the resulting mixture should be fairly coarse and open. Bicarbonate of soda should be used as a raising agent. This makes the mixture dark in colour.

**Principles of the melting method.**

1. The bicarbonate of soda and the spices should be sifted with the flour and salt.
2. The fat , sugar and syrup ,treacle should be warmed gently in a saucepan, without overheating.
3. Add the fat and syrup mixture to the flour.
4. Any other additional liquid should be added after this.
5. The mixture should be mixed with a metal spoon as the sharp edge helps in quickly blending the sticky liquid with the flour.
6. The mixture should be put into a moderate oven, Reg. 4- 5 or 180<sup>0</sup> C, on the middle shelf.

NB

Bi carbonate of soda , which may also impair the colour and flavor of lighter mixtures, is satisfactorily disguised by the addition of ginger and other spices.

### **Faults and their causes**

#### **1. Cake sunk in the middle:**

- a. too much raising agent
- b. too much syrup or treacle
- c. oven door opened too soon
- d. too hot an oven

#### **2. Cake cracked when it has risen:**

- a. too much flour in proportion to other ingredients
- b. insufficient liquid
- c. too much raising agent.

#### **3. Cake hard on the outside and doughy inside**

- a. too much liquid
- b. too much syrup
- c. too hot an oven

### **Uses of melted – fat mixtures**

Gingerbread(plain, fruit,, nut), parkin, coburg cake

### **SPONGE MIXTURES (whisking method)**

A true sponge mixture is made by whisking together eggs and sugar to incorporate as much air as possible and folding in sufficient flour to form a light , open , cellular structure.

As the success of the cooked sponge depends upon the amount of air included while mixing, the proportion of eggs to flour is higher than in mixtures containing fat. When more than three eggs are used a little hot water may be added to the whisked mixture. This helps to set the albumen round the air bubbles and gives a light cooked sponge.

Principles of making sponge mixtures

1. The utensils used for mixing the ingredients should be dry and free from any grease.
2. The eggs should be whisked with sugar until the mixture is pale in colour , thick and creamy. Whisking should be done over a bowl of hot water. The bowl containing the mixture should not touch the water as the heat will coagulate the egg albumen and prevent from holding air.
3. Whisking should be continued away from warmth until the mixture cools.
4. Fold in the flour very lightly , using a metal spoon.
5. Pour on the greased lined tins.
6. Bake th middle shelf .

### **Faults and their causes**

#### **1. Heavy, close texture:**

- a . insufficient beating of eggs and sugar
- b. fat and sugar over heated during beating
- c. flour added too quickly , squashing out the whisked – in- air
- d. too much flour added
- e. flour stirred in instead of being folded in gradually
- f. too hot an oven- mixture sets before air expands.

#### **2. Moist 'sad' texture:**

- a. too much sugar
- b. too hot or too cool an oven

- c. insufficient cooking
- d. oven door opened before cake set.

**3. Sinking in the middle**

- a. too hot an oven
- b. insufficient cooking
- c. moving the cake before it has set

**4. Cracking of swiss roll**

- a. over- cooking
- b. too close a texture
- c. tin not lined with grease proof paper
- d. mixture not rolled over a damp cloth.
- e. rolling too quickly

**Uses of sponge mixtures**

Sponge sandwiches, sponge fingers, layer cakes, swiss roll, sponge cakes