

CHAPTER XVI

The Value and Use of Fats

ASIDE from their natural occurrence in foods, fats are added to foods for shortening and for giving a richer flavor in sauces and other dishes. They are also used as a medium of cookery in frying and sauteing. Pure fat gives twice as much heat or energy as an equal weight of starch, sugar or protein. All pure fats are equally valuable as food. Those most prized for flavor are most expensive, such as butter and olive oil.

The fat soluble vitamins are present particularly in animal fats, hence there is a necessity of such fats being included in the diet.

The principal fats are cream and butter; the substitutes, oleomargarines, made from both animal and vegetable fat; lard and mixed fats sold as shortening; the oils, such as olive, cottonseed, corn, sesame and peanut, as well as cod liver oil, which is the valuable source of vitamin D.

PRESERVATION OF FATS

When stored, fats must be protected from heat, light and air. To keep well, fats should be stored in a clean cellar or other cool place. Stone crocks or tin buckets fitted with tight covers are the best containers. Dark bottles are better than uncolored ones for keeping oils. All animal fats keep better than the tissue in which they occur, hence they should be rendered.

The common method of heating chopped fatty tissue over a direct flame impairs the keeping qualities. It is better to heat the fat in an improvised double boiler till the tissue is fully shrunk. Then strain thru a heavy cloth. This lower temperature will not decompose the fat.

Butter becomes rancid more quickly than most fats, If it must be kept long it should be heated slowly until the sound of cooking ceases and then the pure fat may be poured off from the sediment or foamy scum. Its flavor will be slightly impaired, but it will keep much longer.

THE USE OF FAT IN THE DIET

Fats having a low melting point, as cream or butter, are more easily digested than the harder ones. Fried foods take longer to digest than foods prepared in other ways, as the digestion of fat takes place in the intestines and not in the stomach.

ECONOMIES IN THE USE OF FAT

1. *To utilize small quantities* of fatty tissue, which are found on good steaks and roast, it is a good plan to render it by adding it to the stock fat. After stock is cooled the fat may be removed for use.

2. *For sauteing and frying*, any scraps of fat having pleasing flavor or one not too pronounced to blend well with the food are suitable.

3. *For flavoring*, bacon and ham drippings are used because of their flavors in sauces for starchy foods such as rice and potatoes, dressings for meat and vegetables, salads, and as basting liquor for mild meats such as veal.

4. *Fatty meats* may be cooked with vegetables, the broth being used with the food.

5. *For shortening.*

(a) Fats rendered from fatty tissue of fowls have a pleasing yellow color and a mild flavor. They are especially good in biscuits.

(b) Rendered fat or finely chopped fatty tissue from beef or pork may be used in cakes, suet puddings, crusts of meat pies and similar dishes.

6. *For butter substitutes*, since butter is much prized for its flavor, any substitute must be a fat having a pleasing flavor and of consistency similar to butter.

(a) Beef fat may be finely chopped and rendered in a double boiler with sweet or sour milk. Much of the milk solids will be taken up by the fat, improving its flavor and making it less hard on cooling.

(b) Mutton fat has a high melting point and solidifies in the mouth, giving a furry feeling. It is much improved if used with a small quantity of some softer fat or oil. The strong flavor may be

masked by the addition of savory herbs, as an apple or onion, in rendering, allowing the vegetables to remain in the fat till well browned.

- (c) Fresh pork may be heated with savory herbs to improve the flavor.

THE COOKERY OF FAT

When fats are heated to a high temperature, giving a dark smoke, a change in the composition of fats takes place and there is developed a sharp, penetrating odor due to this change. When fat has thus been changed, it is very irritating to the digestive tract.

In selecting fats for use in deep frying, choose those that impart good flavor to the food fried and take up no flavors from the food. A fat which may be heated to a high temperature without smoking or scorching is desirable, as such fat may be used over and over.

The following is the smoking temperatures of fats as determined in experimental cookery:

Cottonseed (Wessen)	437°—452° F.
Snowdrift	433°—449° F.
Crisco	412°—448° F.
Chicken Fat	410° F.
Corn Oil (Mazola)	406° F.
Lard	347°—404° F.
Bacon fat	293° F.
Suet	242° F.
Olive Oil	347° F.

The smoking temperature varies with the shape of the utensil in which the fat is heated.

PREPARATION OF FOOD FOR FRYING

Cooked foods are rolled in egg or crumbs in order to prevent fats from soaking into them. Crumbs from dried bread may be sifted and the finer ones used for crumbing. Beat an egg slightly, add 2 tbsp. of milk or water to it. Dip food to be crumbed in crumbs first, then in egg mixture, and then in crumbs again. Allow to stand a while before frying in order to dry.

Raw food should be dried as thoroly as possible before frying. Raw foods are sometimes dipped in a batter and fried. Summer squash and some meats are better for being fried in batter. The batter is usually one such as is made into popovers.

DEEP FAT FRYING

Deep fat frying is used for croquettes, fritters, doughs, and some meats. Food to be fried in deep fat is protected with a coating of eggs and crumbs. The fat must be heated to a temperature suited to the food to be fried.

If cooked food is fried, the fat should be hot enough to brown an inch cube of bread in 40 to 50 seconds or a temperature ranging from 360° to 400° F.

For uncooked foods, the bread should brown in from 60-75 seconds. The larger the portion of uncooked food to be fried, the longer the time in browning the cube. This temperature runs from 335° to 360° F.

If fat is too hot, the food is browned without cooking thru or it scorches the food and spoils the fat. If fat is not hot enough food is liable to become soaked with the fat.

Utensils to Use: A heavy iron or aluminum kettle with a round bottom is best for deep fat frying. A Scotch bowl is a type of kettle much used. In addition, the following utensils are desirable: a wire basket in which the food is placed, making it easy to handle; a pie pan large enough to hold the basket when taken out of fat; another pan, lined with soft paper, to drain the food in; a long handled fork for turning food.

Care of Fat After Frying: Allow the fat to cool thoroly, strain thru a cheesecloth to remove any particles of food. Particles of food left in will cause fat to deteriorate. Fats should be clarified after every time or two by one of the following methods:

..To Clarify Fat

(a) Pour boiling water over the cool fat. Boil the mixture thoroly and allow to cool, after straining thru cheesecloth. Scrape impurities off the bottom of the fat after it is cold.

(b) If fat has acquired a flavor, before cooling cut up a raw potato into slices and cook slowly. When potatoes are brown, allow to cool and strain thru cheesecloth. The sediment may be scraped off the bottom of the cake when cold.

(c) To renovate slightly rancid fat, heat the fat with several pieces of charcoal. Allow it to remain warm for several hours, then strain very carefully. Melt rancid butter with $\frac{1}{4}$ to 1 tsp. of soda to the pound. Heat till noisy cooking ceases and pour off the clear fat.

WHIPPED CREAM

Cream containing 20 percent of butter fat to be whipped ought to be 24 hours old, but if a higher percent, 25 percent to 40 percent, is in the cream it is more easily done. All cream whips more easily if cold and the utensils used are cold. Fresh cream does not whip easily.

SOAP MAKING

Fats no longer fit for frying may be used for soap making. It is a good plan to keep a jar in which to add bits of melted fats to await use in soap. Mutton fat and sausage fat may be used. Bacon and ham fat may also be used. It is very important that such fats should be freed from salt by clarifying with boiling water several times.

1 lb can of lye	5½ lb of fat, melted, but not
2 pts. cold water	hot

Put the cold water in a wooden bucket or granite pan. Add lye very carefully as it spatters easily. Stir until well dissolved and allow to get cold. Then gradually add the melted fat, stirring all the time. Continue stirring until the mixture begins to fall in two drops from the stick or as the jelly test reads, it begins to sheet from the spoon. Pour into pasteboard boxes lined with oiled paper and cover. Set away in a warm place for several days to thoroly harden. Remove from boxes and cut by means of a wire into convenient pieces.

Beating improves the texture of the soap.