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Lard Becomes a Preferred Cooking Fat

Belle Lowe
Iowa State College

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BUTTER and lard once were the only table and cooking fats. Then other fats gradually appeared which were mild in flavor and odor, had higher smoking points than lard, and during the years their creaming qualities were gradually improved.

Buttermakers developed grades for their product, and the home­maker now can buy butter with a definite score and know she is obtaining a uniform product. But lard manufacturers did little or nothing to improve or standardize lard. As a result butter consumption remained practically constant over a long period of years, that of lard dropped, while that of lard substitutes increased.

Now lard manufacturers are getting busy and are doing something about lard. As a result one packer is selling experimentally in two large cities a lard which:

Is mild or practically odorless and flavorless.
Has a smoking point much higher than ordinary lard.
Will keep much longer without becoming strong or rancid because of the addition of small amounts of various substances.
Has creaming ability improved by the addition of about 10 percent of hydrogenated lard.

This is good news to Iowa home­makers, because lard is cheaper per pound than its substitutes. The new lard has been used in the Home Economics Department at Iowa State College, and the home economists who have done experimental tests with lard for 8 years are “keen” about the new product. These new lards probably soon will be marketed in Iowa.

Hogs usually comprise about 35 percent of the annual farm income in Iowa. And since from 15 to 18 percent of the hog is marketed as lard, the price of lard is important to the income of the farm family.

Lard is digestible. Some experiments in the Office of Home Economics of the Department of Agriculture showed that 97.8 percent of the lard was absorbed from the human intestinal tract. This was not true of the harder fats. As the hardness of a fat increases through hydrogenation (a process of treating an oil with hydrogen to produce a fat or treating a soft fat with hydrogen to produce a firmer one) or otherwise, the percentage absorbed decreases.

For example, deer fat, which is quite firm, had only 81.7 percent of the fat absorbed during digestion. On the other hand, the partially hydrogenated cottonseed oil used in these experiments varied with the degree of hydrogenation. The melting point of a fat is raised...
as the degree of hydrogenation is increased. For melting points varying from 106.3° to 122° F., the absorption was 96.6 to 87 percent, respectively.

In using fats for frying doughnuts and potato chips at Iowa State College it was found that the time the food stayed in the fat, rather than the temperature of the fat, determined the amount of fat absorbed. If too high a temperature is used to shorten the cooking time, however, the fat breaks down more readily. But if the temperature of the fat is too low, the food must remain in the fat an unduly long time to cook and brown.

It was suggested as a result of these tests that doughnuts might be more desirable if cooked to a slightly lighter brown color than is customary. Students who bought the doughnuts made in this laboratory came to prefer those cooked 3 minutes at 340° F. to those cooked 3 minutes at a temperature often recommended for frying doughnuts, namely 365° F. Fats used at lower temperatures are suitable for frying for a longer time than if used at higher temperatures—they are decomposed or broken down less readily and rapidly at the lower temperature.

It was also found that the lower the smoking point of a fat (smokes at a low temperature), the greater the fat absorption of doughnuts cooked in this fat. Since the absorption of too much fat makes doughnuts and other foods less desirable, it is preferable to use a lard for frying that has a high initial smoke point. Two of the many lards which were used in these tests, produced by a special method not ordinarily used in making lard, did not smoke until a temperature of 425° F. was reached. The new lard mentioned at the first of this article also has a very high smoke point.

Food particles, like flour from doughnuts, crumbs from croquettes or particles of potato, which accumulate and become charred in the fat during cooking, help to hasten the breaking down of the fat. When a fat decomposes in this way, its smoking point is lowered and it develops a brownish or gray color. Other changes also are occurring, and after decomposition proceeds further, disagreeable odors and irritating fumes are given off. The longer the fat is heated the greater its decomposition.

It also was found that the larger the amount of water in food cooked in the fat, the faster some changes occurred in the fat. Since potatoes have a higher water content than doughnuts, the breakdown of fat is only hastened if you attempt to clarify it by cooking potatoes in it, a procedure often advised. It is better to strain the fat through a cloth woven closely enough to remove the particles.

The work with lard at the College has shown that lard which does not cream well — and few lards do cream well except those containing some hydrogenated lard— can be used successfully in cakes by modifying the method of mixing.

Lard in a cake tends to make it velvety or soft IF the cake has a good texture. But when cakes are made with lard by the conventional process of creaming the fat and sugar, adding the egg and then flour and milk, they usually have poor texture. The cause for this is the effect of the lard and egg upon each other when combined early in the mixing process.

We have found it best to add the egg late in combining the ingredients. This may be done in a plain cake by (1) combining the whole egg with the milk, or (2) by beating part of the sugar gradually into the whole egg until it is light and fluffy and adding this egg-sugar mixture last. More air is incorporated if the egg-sugar mixture is beaten with an electric mixer or very rapidly with a rotary egg beater. Before this egg-sugar mixture has time to lose the air, stir it into the cake mixture. If the eggs and sugar are beaten before the cake batter is mixed, a great deal of the air is lost while standing. Or (3) the egg yolk may be combined with the milk and about one-fourth of the sugar beaten into the egg white.

For a white cake, combine in the usual manner, but beat about one-fourth of the sugar into the egg white. Fold it into the cake batter.

You may use lard with your usual cake recipes, but you will make a better cake by using one of the three above methods of mixing.

Tests show that lard does not have the "brittleness" of some other fats; it is plastic over a wide range of temperatures. It will blend satisfactorily with flour immediately on bringing it up out of the cold basement or taking it out of a refrigerator.

Lard possesses the greatest shortening power of any of the plastic fats—that is, it will produce the most tender pastry. In addition to cutting into the flour readily and producing a tender pastry, it gives a flaky pastry. Because of these characteristics it is the fat "par excellence" for pastry making.