Summary:

Fat is a principal component of the diet. It adds or modifies flavour, texture and helps in leavening batter and doughs. It also contributes to tenderness, flakiness of the product. It transfers heat to food while frying and prevents sticking of food. Frying is a rapid heat transfer method that achieves a higher temperature than boiling or dry heat temperature. Sources of fats and oils may be animal, vegetable, or marine, which may be manufactured in some combination in industrial processing. Fats and oils may be modified by hydrogenation, inter-esterification. Fats and oils undergo certain undesirable changes during storage which result in spoilage. The major spoilage of fats and oils is rancidity. Hydrolytic rancidity releases FFAs and oxidative rancidity produces shorter, off-odor free radicals catalyzed by heat, light, metals, or enzymes. Prevention of oxidation by avoiding catalysts in the environment or by the addition of sequestering agents or antioxidants may be useful in extending shelf life. Various fat replacements attempt to mimic fat in mouthfeel and perception so that it is good tasting and low fat. Foods may contain reduced-fat, low-fat, or no-fat formulations using a variety of fat replacers derived from carbohydrates or proteins. Their caloric and cholesterol level are significantly less than fat. As a group, fats and oils should be used sparingly in the diet.