Industry uses of lipids

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Role and Changes of Plant Lipids in Processed Foods

 Plant lipids have the ability to increase the nutritional values of foods. They also contain tocopherols and tocotrienols, which are the major essential sources of vitamin E. Lipids affect the functional properties of foods; for example, they help to retain carbon dioxide in dough, thus increasing the final volume of bakery products.

 The main importance of lipids is their influence on the sensory properties. They affect the texture and increase the viscosity of the morsel after mixing with saliva; high viscosity is appreciated by many consumers.

 The most desirable influence of lipids is their effects on the odor and flavor of food products. Plant lipids, being more unsaturated than animal lipids, produce different flavor notes as a result of culinary operations. Flavors originating at roasting or frying temperatures are particularly appreciated.

Frying Oils and Fats

The using of oils and fats as a frying medium in both shallow and in deep frying mode is an important component in the overall picture of food applications. Recently, it has been reported that 20 million tons of oils and fats is used in this way. This represents a major share of the 90 million tones used for dietary purposes. Of course, it should be taken in mind that while some of the frying oil is consumed along with the fried foods, much is thrown away (shallow pan frying) or ultimately finds other uses as spent frying oil.

Spreads: Butter, Ghee Butter.

For many centuries, butter from cow’s milk fat has been mainly used as a spread, but also for baking and frying purposes. Butter has become less widespread with the continuous development of good-quality margarine and other spreads. The are some disadvantages associated with butter such as, its comparatively high price, its poor spread-ability (especially from the refrigerator), and its poor health profile resulting from its high fat content, its high

content of saturated fatty acids and cholesterol, and the presence of trans unsaturated fatty acids. Butter has the advantages of its completely natural profile and its splendid flavor. Ghee. Milk fat can be consumed partly as butter but also as ghee, however the latter is declining and is now probably below one-quarter of the combined total. Ghee is a concentrate of butterfat with more than 99% of milk fat and less than 0.2% moisture. It has a shelf life of 6- 8 months even at ambient tropical temperatures. Butter or cream is converted to ghee by controlled heating to reduce the content of water to below 0.2%. In other procedures the aqueous fraction is allowed to separate and some of it is run off before residual moisture is removed by heating. Ghee is distinguished by a cooked caramelized flavor varying slightly with the method of preparation.

Baking Fats, Dough and Shortening

The application of oils and fats in baking processes ranks with frying and spreads as a major food use of these materials. The products range from breads and layered dough to cakes, biscuits (cookies) and biscuit fillings, pie crusts, short pastry, and puff pastry. The fats used to produce this wide range of baked goods vary in their properties and particularly in their melting behavior and plasticity. It is possible to achieve these properties with different blends of oils, and preferred mixtures vary in different areas of the world.