Cooking Fats*

One frequently voiced objection to the consumption of butter and other animal fats is that they tend to accumulate environmental poisons. Fat-soluble poisons such as DDT do accumulate in fats; but water-soluble poisons, such as antibiotics and growth hormones, accumulate in the water fraction of milk and meats. Vegetables and grains also accumulate poisons. The average plant crop receives ten applications of pesticides—from seed to storage—while cows generally graze on pasture that is unsprayed. Aflatoxin, a fungus that grows on grain, is one of the most powerful carcinogens known. It is correct to assume that all of our foods, whether of vegetable or animal origin, may be contaminated. The solution to environmental poisons is not to eliminate animal fats—so essential to growth, reproduction and overall health—but to seek out organic meats and butter from pasture-fed cows, as well as organic vegetables and grains. These are becoming increasingly available in health food stores and supermarkets and through mail order and cooperatives.

Before leaving this complex but vital subject of fats, it is worthwhile examining the composition of other dietary fats and oils in order to determine their usefulness and appropriateness in food preparation:

- **Duck and Goose Fat** are semisolid at room temperature, containing about 35 percent saturated fat, 52 percent monounsaturated fat (including small amounts of antimicrobial palmitoleic acid) and about 13 percent polyunsaturated fat. The proportion of omega-6 to omega-3 fatty acids depends on what the birds have eaten. Duck and goose fat are quite stable and are highly prized in Europe for frying potatoes.

- **Chicken Fat** is about 31 percent saturated, 49 percent monounsaturated (including moderate amounts of antimicrobial palmitoleic acid) and 20 percent polyunsaturated, most of which is omega-6 linoleic acid, although the amount of omega-3 can be raised by feeding chickens flax or fish meal, or allowing them to range free and eat insects. Although widely used for frying in kosher kitchens, it is inferior to duck and goose fat, which were traditionally preferred to chicken fat in Jewish cooking.

- **Lard** or pork fat is about 40 percent saturated, 48 percent monounsaturated (including small amounts of antimicrobial palmitoleic acid) and 12 percent polyunsaturated. Like the fat of birds, the amount of omega-6 and omega-3 fatty acids in lard will vary according to the diet of the pigs. In the tropics, lard may also be a source of lauric acid if the pigs have eaten coconuts. Like duck and goose fat, lard is stable and a preferred fat for frying. It was widely used in America at the turn of the century. It is an excellent source of vitamin D, especially in third-world countries where other animal foods are likely to be expensive. Some researchers believe that pork products should be avoided because they may contribute to cancer. Others suggest that only pork *meat* presents a problem and that pig *fat* in the form of lard is safe and healthy.

- **Beef and Mutton Tallows** are 50-55 percent saturated, about 40 percent monounsaturated and contain small amounts of the polyunsaturates, usually less than 3 percent. Suet, which

is the fat from the cavity of the animal, is 70-80 percent saturated. Suet and tallow are very stable fats and can be used for frying. Traditional cultures valued these fats for their health benefits. They are a good source of antimicrobial palmitoleic acid.

- **Olive Oil** contains 75 percent oleic acid, the stable monounsaturated fat, along with 13 percent saturated fat, 10 percent omega-6 linoleic acid and 2 percent omega-3 linolenic acid. The high percentage of oleic acid makes olive oil ideal for salads and for cooking at moderate temperatures. Extra virgin olive oil is also rich in antioxidants. It should be cloudy, indicating that it has not been filtered, and have a golden yellow color, indicating that it is made from fully ripened olives. Olive oil has withstood the test of time; it is the safest vegetable oil you can use, but don't overdo. The longer-chain fatty acids found in olive oil are more likely to contribute to the buildup of body fat than the short- and medium-chain fatty acids found in butter and coconut oil.

- **Peanut Oil** contains 48 percent oleic acid, 18 percent saturated fat and 34 percent omega-6 linoleic acid. Like olive oil, peanut oil is relatively stable and therefore appropriate for stir-frys on occasion. But the high percentage of omega-6 presents a potential danger, so use of peanut oil should be strictly limited.

- **Sesame Oil** contains 42 percent oleic acid, 15 percent saturated fat, and 43 percent omega-6 linoleic acid. Sesame oil is similar in composition to peanut oil. It can be used for frying because it contains unique antioxidants that are not destroyed by heat. However, the high percentage of omega-6 militates against exclusive use.

- **Safflower, Corn, Sunflower, Soybean and Cottonseed Oils** all contain over 50 percent omega-6 and, except for soybean oil, only minimal amounts of omega-3. Safflower oil contains almost 80 percent omega-6. Research continues to accumulate on the dangers of excess omega-6 oils in the diet, whether rancid or not. Use of these oils should be strictly limited. They should never be consumed after they have been heated, as in cooking, frying or baking. High oleic safflower and sunflower oils, produced from hybrid plants, have a composition similar to olive oil, namely, high amounts of oleic acid and only small amounts of polyunsaturated fatty acids and thus are more stable than traditional varieties. However, it is difficult to find truly cold-pressed versions of these oils.

- **Canola Oil** contains 5 percent saturated fat, 57 percent oleic acid, 23 percent omega-6 and 10-15 percent omega-3. The newest oil on the market, canola oil was developed from the rape seed, a member of the mustard family. Rape seed is considered unsuited to human consumption because it contains a long-chain fatty acid called erucic acid, which under some circumstances is associated with fibrotic heart lesions. Canola oil was bred to contain

little if any erucic acid and has drawn the attention of nutritionists because of its high oleic-acid content. But there are some indications that canola oil presents dangers of its own. It has a high sulphur content and goes rancid easily. Baked goods made with canola oil develop mold very quickly. During the deodorizing process, the omega-3 fatty acids of processed canola oil are transformed into *trans* fatty acids, similar to those in margarine and possibly more dangerous.[69] A recent study indicates that "heart healthy" canola oil actually creates a deficiency of vitamin E, a vitamin required for a healthy cardiovascular system.[70] Other studies indicate that even low-erucic-acid canola oil causes heart lesions, particularly when the diet is also low in saturated fat.[71]

Flax Seed Oil contains 9 percent saturated fatty acids, 18 percent oleic acid, 16 percent omega-6 and 57 percent omega-3. With its extremely high omega-3 content, flax seed oil provides a remedy for the omega-6/omega-3 imbalance so prevalent in America today. Not surprisingly, Scandinavian folk lore values flax seed oil as a health food. New extraction and bottling methods have minimized rancidity problems. It should always be kept refrigerated, never heated, and consumed in *small* amounts in salad dressings and spreads.

Tropical Oils are more saturated than other vegetable oils. Palm oil is about 50 percent saturated, with 41 percent oleic acid and about 9 percent linoleic acid. Coconut oil is 92 percent saturated with over two-thirds of the saturated fat as medium-chain fatty acids (often called medium-chain triglycerides). Of particular interest is lauric acid, found in large quantities in both coconut oil and in mother's milk. This fatty acid has strong antifungal and antimicrobial properties. Coconut oil protects tropical populations from bacteria and fungus so prevalent in their food supply; as third-world nations in tropical areas have switched to polyunsaturated vegetable oils, the incidence of intestinal disorders and immune deficiency diseases has increased. Because coconut oil contains lauric acid, it is often used in baby formulas. Palm kernel oil, used primarily in candy coatings, also contains high levels of lauric acid. These oils are stable and can be kept at room temperature for many months without becoming rancid. Highly saturated tropical oils do not contribute to heart disease but have nourished healthy populations for millennia.[72] It is a shame we do not use these oils for cooking and baking—the bad rap they have received is the result of intense lobbying by the domestic vegetable oil industry.[73] Red palm oil has a strong taste that most will find disagreeable—although it is used extensively throughout Africa—but clarified palm oil, which is tasteless and white in color, was formerly used as shortening and in the production of commercial French fries, while coconut oil was used in cookies, crackers and pastries. The saturated fat scare has forced manufacturers to abandon these safe and healthy oils in favor of hydrogenated soybean, corn, canola and cottonseed oils.

In summary, our choice of fats and oils is one of extreme importance. Most people, especially infants and growing children, benefit from *more* fat in the diet rather than less. But the fats we eat must be chosen with care. Avoid all processed foods containing newfangled hydrogenated fats and polyunsaturated oils. Instead, use traditional vegetable oils like extra virgin olive oil and small amounts of unrefined flax seed oil. Acquaint yourself with the merits of coconut oil for baking and with animal fats for occasional frying. Eat egg yolks and other animal fats with the proteins to which they are attached. And, finally, use as much good quality butter as you like, with the happy assurance that it is a wholesome—indeed, an essential—food for you and your whole family.

Organic butter, extra virgin olive oil, and expeller-expressed flax oil in opaque containers are available in health food stores and gourmet markets. Edible coconut oil can be found in Indian and Caribbean markets. (See Sources for good quality fats and oils by mail order.)

* Nourishing Traditions (Revised 2nd Edition) by Sally Fallon with Mary Enig