

Olive Oil

Olive oil is the best fat for cooking, and a valuable article of diet for both sick and healthy of all ages.

— Maud Grieve, *A Modern Herbal*

Ancel Keys walks me around his garden. We are in Pioppi, Italy, several hours south of Naples. The garden is terraced. There roses and orchids, tiny potatoes and artichokes, rows of onions, lettuces, and chard-like vegetables, and lemon, grapefruit, loquat, fig, and olive trees. Last year was terrible for olives, Keys tells me, but this year looks better. He bends an olive branch, and shows me a cluster of new buds.

Without Ancel Keys, an academic physiologist, we wouldn't know much about olive oil. In the 1950s and 1960s, he discovered that saturated fat raises blood cholesterol and causes heart disease, and that replacing it with unsaturated fat such as olive oil lowers cholesterol. He also identified the healthfulness of what we now call the Mediterranean Diet with his pioneering Seven Countries Study of the United States, Holland, Finland, Yugoslavia, Italy, Greece, and Japan.

"There's no evidence that olive oil has a special virtue," says Keys. "It's simply a matter of changing the distribution of fatty acids. The diet should certainly be low in saturated fatty acids. It probably shouldn't be too high in polyunsaturates, because none of the world's populations consume a diet that is high in polyunsaturates. When saturates are high in these populations, they have coronary heart disease. When saturates are decreased, as they were markedly in Finland, coronary heart disease goes down." (His next-door neighbor in Pioppi is Marti Karvonen, who ran the Finnish part of the Seven Countries study

with Keys. He remembers Finland in the '50s. "In those days, in the winter time, we had bread, potatoes, milk, and pork with layers of fat on it. There was nothing green seen on the table - maybe the table cloth.")

The Mediterranean Diet, rich in monounsaturated olive oil, may be an alternative to a very low-fat, high-carbohydrate diet for the prevention of heart disease and diabetes. In some people, substituting carbohydrates for fats lowers their beneficial HDL cholesterol and raises blood sugar levels because they can't produce enough insulin to handle all those carbohydrates. Diabetics, for example, are now often advised to consume a moderate-fat, low-saturated-fat diet, replacing the saturated fats with monounsaturates such as olive oil.

Simply adding olive oil to a high-fat diet, on the other hand, will do no one any good. If you want the benefits of the Mediterranean Diet, you should emulate the Mediterraneans' entire way of eating, not to mention their high level of physical activity.

Olive oil, the main fat in the Mediterranean countries, is good for what it is not: It is not rich in saturated fatty acids like butter and cream, nor in trans fatty acids like those found in the hydrogenated fat of stick margarine and many processed foods. Both saturated and trans fatty acids raise blood cholesterol.

Nor is olive oil rich in polyunsaturated fatty acids, as are corn oil and safflower oil. Polyunsaturated fats increase the likelihood of blood clotting and, in animal studies, promote the growth of cancer. By not being polyunsaturated, olive oil may help the body transform vegetable sources of Omega-3 fatty acids (see Walnuts, page 000) into their heart-protective forms, EPA and DHA. Polyunsaturated fats interfere with this beneficial process.

So the Mediterranean Diet, with vegetables rich in Omega-3 fatty acids and olive oil as the main fat is a good mix. (In many areas of the Mediterranean, the diet also includes plenty of fish, which is rich in elongated, heart-healthy Omega-3 fatty acids.)

Olive oil is also good for what it is. Olive oil is a traditional agricultural product, a whole food. It is more than the sum of its fatty acids. Extra-virgin olive oil, which undergoes the least processing, is particularly rich in antioxidants, some of which are lost in later pressings. Extra-virgin olive oil contains significant amounts of vitamin E, for example, which reduces blood clotting. It contains something else that prevents blood clotting, too, although no one is quite sure what. In a 1994 study of the effects of Omega-3 rich fish oil on blood clotting, the researchers used olive oil as an inactive "placebo." But something in olive oil also made the blood of the healthy young men and women less likely to clot. A 1995 study found similar results.

Like many other plant foods that predominate in the Mediterranean (greens, onions, garlic, red wine), olive oil is rich in antioxidant phenolic compounds. These may contribute to its anti-clotting capability. The antioxidants may protect healthful LDL cholesterol from becoming oxidized, the first step toward the development of coronary heart disease. A 1995 Italian laboratory study found that extra-virgin olive oil, even in small amounts, prevents the oxidation of blood cholesterol.

Perhaps it's those phenolics that account for a surprising new finding about olive oil: It may protect against breast cancer. Many phenolic antioxidants inhibit cancer in many stages along the way, from the initiation of a potential tumor to its progression into actual cancer. It's too early to tell what, if anything, in olive oil protects.

But population studies in Spain, Greece, and Italy show a lower rate of breast cancer in women who use olive oil as their principal fat. The relationship isn't proven, to be sure, but it's a potential benefit. When one consumes whole foods, the benefits are not linear.

It is dusk in Pioppi. Ancel's wife, Margaret, invites me to pick peas; white flowers bloom on the vines. We come back inside. Cocktails are served. Dinner is simple. She sets out a carousel of wine and water, and pretty pottery bowls of steaming bow-tie pasta. In the center of the table is a bowl of aromatic, maroon-colored octopus sauce. Margaret says it's made by sauteeing fresh octopus, and adding tomatoes, garlic, parsley, salt, pepper, and olive oil. After pasta, she brings out fresh green beans and mushrooms, sauteed in olive oil. Crusty, whole-wheat bread appears. For dessert, perfectly ripe pears and apples on a plate with a sharp knife. Margaret is in her late 80s; Ancel, his early 90s. They have been eating this way for about half a century, and it appears to agree with them.

Hot Chile Olive Oil

Yield: 2 cups

Flavored oils are a short-cut to aromatic cooking. Use them as you would any oils: in stir-fries, pasta sauces, marinades, and vinaigrettes. Of late, fresh herb oils have fallen out of favor because fresh herbs in oil can harbor the botulin bacterium. (If you want to use fresh herbs, saute them first, which drives out the water, and makes the oil safer.) Dried chile peppers are not a concern, but it's still a good idea to make only a cup or two, so flavors stay fresh, and to store in the refrigerator. Let it come to room temperature before using. The strength

of the infusion will vary with the quantity of peppers; a little practice will give you the results you like best.

8 to 10 dry small hot chile peppers

2 cups extra virgin olive oil

Wash and dry the peppers to remove any grit or dust. Using a small knife, make tiny slits in the peppers, but leave them whole.

Put the peppers in a clean, dry 1-pint glass container. Add the olive oil, and close with a tight-fitting lid.

Refrigerate the oil for 2 weeks before using for flavors to infuse. Strain it through a fine sieve or dampened cheesecloth before using.