

PALM OIL: A COMPLEMENTARY OIL FOR CANOLA OIL

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Production of canola oil increased 300% in the ten-year period from 1975 to 1985. Currently Canada, France and West Germany are the major forces in the world trade of canola, which is a low erucic acid rapeseed oil. World production in 1986 amounted to 6.3 million tonnes, Canada's share of this being 26 percent.

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The use of 100% canola oil in stick margarine and shortening is not recommended because of the formation of large crystals, which is characteristic of hydrogenated canola oil. In the freshly prepared product, the fat crystals are small but upon storage, and especially when the temperature fluctuates, the crystals grow to a large size. In the case of margarine, the products acquire a sandy mouth-feel. The margarine also becomes hard and brittle with discoloured patches. Palm oil, especially hydrogenated palm oil, is known for its ability to form small stable crystals. When palm oil is incorporated into hydrogenated canola oil, it helps retard the formation of large crystals. For this reason, in Canada, incorporation of palm oil is the most economical and effective method for manufacturing a canola margarine of good quality.

Margarines are stored at refrigerator temperature, and low temperatures also help in the retardation of the growth of large crystals. Shortenings, however, are stored at room temperature and must have good consistency over a wider temperature range.

The formation of small crystals is a necessity to provide good creaming and aeration capability. Because of the higher storage temperature of shortenings, it is more difficult to manufacture a canola-based shortening. Although 10% of palm oil is sufficient for canola-based margarines, canola-based shortenings require more. Fully hydrogenated palm oil at a level of 10%—12% is usually added to soybean oil shortening to extend the plastic range and also to prevent the formation of large crystals. Canola-based shortenings require still more palm oil and current research is trying to establish the right proportions of palm oil to prevent large crystal formation in these materials.