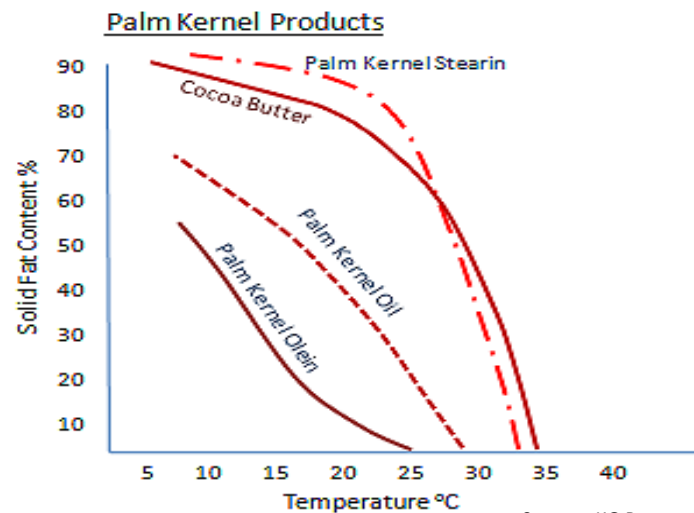
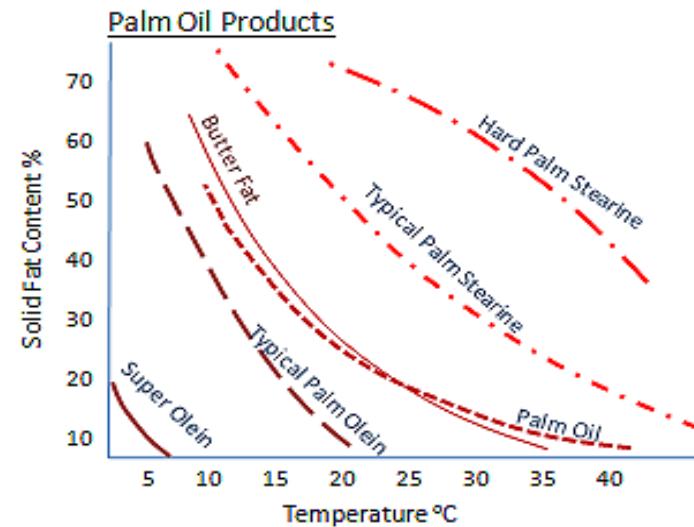


Fat Fundamentals of Palm Oil & Palm Kernel Oil

Natural fat consists of a number of triglycerides (where in each, three fatty acids are combined). Individual fatty acids may be saturated (solid) or unsaturated (liquid), and vary in the length of carbon chain. Individual triglycerides may have melting points as high as 60°C (if all 3 fatty acids are saturated) or as low as -10°C (if all fatty acids are unsaturated). Hence, any natural fat is a mixture of a number of triglycerides and will contain a percentage of solid glycerides at intermediate temperatures. The key selection criterion for fat application is the proportion of solid fat present at temperatures relevant to its use.

Refined palm oil is semi-solid at room temperature with melting profile close to butter fat. It has good resistance to oxidation and heat at prolonged elevated temperature- making it an ideal frying oil blends for performance and economic reasons. Palm oil's natural semi-solid state and excellent frying properties makes it an ideal trans-fat free substitute against hydrogenated oils. Palm Olein is a liquid fraction with narrow range of glycerides, and narrower still for the double-fractioned Super Olein. Palm olein is a monounsaturated dietary fat widely used as cooking oil (and serves as high grade frying oil due to its higher stability and smoke point). Palm Stearine as a co-product is a hard fraction often used as ideal blending component in the production of shortenings and bakery margarines.

Palm Kernel Oil has a different melting behaviour compared to palm oil. It is solid at 15°C and 20°C, but beyond it melts rapidly. This sharp melting behaviour is more pronounced in Palm Kernel Stearin which mimics the profile of cocoa butter – hence finding functional applications in that area. A palm mid-fraction blend makes it possible to equate the profile of cocoa butter. Palm Kernel Olein is more liquid fraction and has characteristics closer to coconut oil. It can be used as cooking oil and as base-oil for the manufacturing of margarine. Due to its superior storage qualities, palm kernel olein is also excellent for use as commercial frying oil for nuts and snacks.



Source : KG Berger