

## **Balancing functional and health benefits of food products formulated with palm oil as oil sources**

### **ABSTRACT**

Palm oil (PO) is widely utilised in the food industry and consumed in large quantities by humans. Owing to its bioactive components, such as fatty acids, carotenoids, vitamin E, and phenolic compounds, PO has been utilised for generations. However, public concern about their adverse effects on human health is growing. A literature search was conducted to identify fractionated palm oil processing techniques, proof of their health advantages, and potential food applications. Refined palm oil (RPO) is made from crude palm oil (CPO) and can be fractionated into palm olein (POI) and palm stearin (PS). Fractional crystallisation, dry fractionation, and solvent fractionation are the three basic fractionation procedures used in the PO industry. The composition of triacylglycerols and fatty acids in refined and fractionated palm oil and other vegetable oils is compared to elucidate the triacylglycerols and fatty acids that may be important in product development. It is well proven that RPO, POI, and PS extends the oil's shelf life in the food business. These oils have a more significant saturated fat content and antioxidant compounds than some vegetable oils, such as olive and coconut oils, making them more stable. Palm olein and stearin are also superior shortening agents and frying mediums for baking goods and meals. Furthermore, when ingested modestly daily, palm oils, especially RPO and POI, provide health benefits such as cardioprotective, antidiabetic, anti-inflammatory, and antithrombotic effects. Opportunities exist for fractionated palm oil to become a fat substitute; however, nutrition aspects need to be considered in further developing the market.