

No Lockdown in The Kitchen: Cooking Oil Fortified with Algae DHA



The COVID-19 pandemic had affected the entire world's functioning, bringing about profound and lasting changes of every life aspect, including food-related behaviours⁷. Restaurants have been closed, and many companies and institutions have switched to hybrid or remote work. Many people who used to eat out have start preparing meals at home and food delivery have simply just blown up¹².

While at home, many consumers discovered a love for cooking. According to an online survey carried out in ten European countries, a latent class cluster analysis had distinguished group of consumers based on how they react to the pandemic with regards to their eating habits. The results turned out 60% of the sample were resilient, while 35% of them reported more enjoyment in cooking and eating, more time in the kitchen and more family meals. Among those, a slight majority also showed signs of more mindful eating, as indicated by

more deliberate choices and increased consumption of healthy food¹². A Deloitte survey also indicated that the consumers planned to eat more of their meals at home even after the health crisis is over⁴.

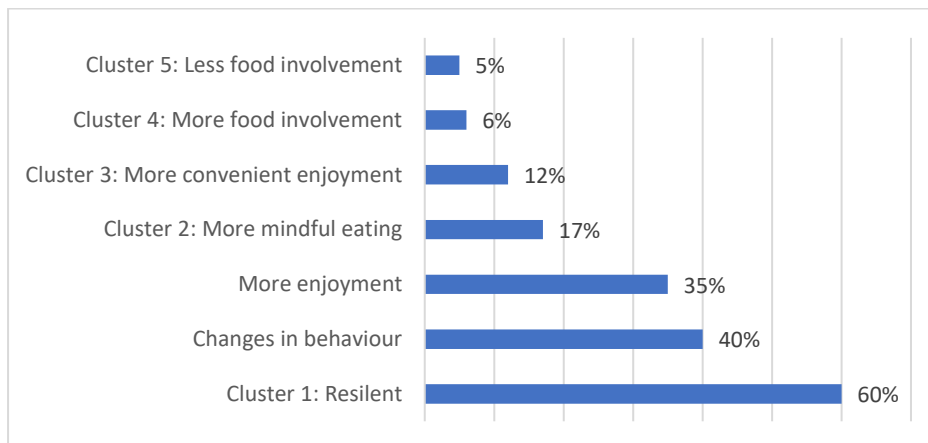


Fig. 1 Clusters of change¹²

In effect with rising in home-cooking, choosing the right cooking oil can make every meal a bit healthier. Cooking oils are an integral part of our diet as they are used in almost all types of culinary practices, from salads to the main courses. There are various sources of vegetable cooking oils available in the market and each vary significantly in their fatty acid composition^{8,16}. Consumers adopting a more holistic approach to their health are thus leading to vast demand and usefulness of vegetable cooking oil in terms of the optimum balance of fatty acids¹⁶.

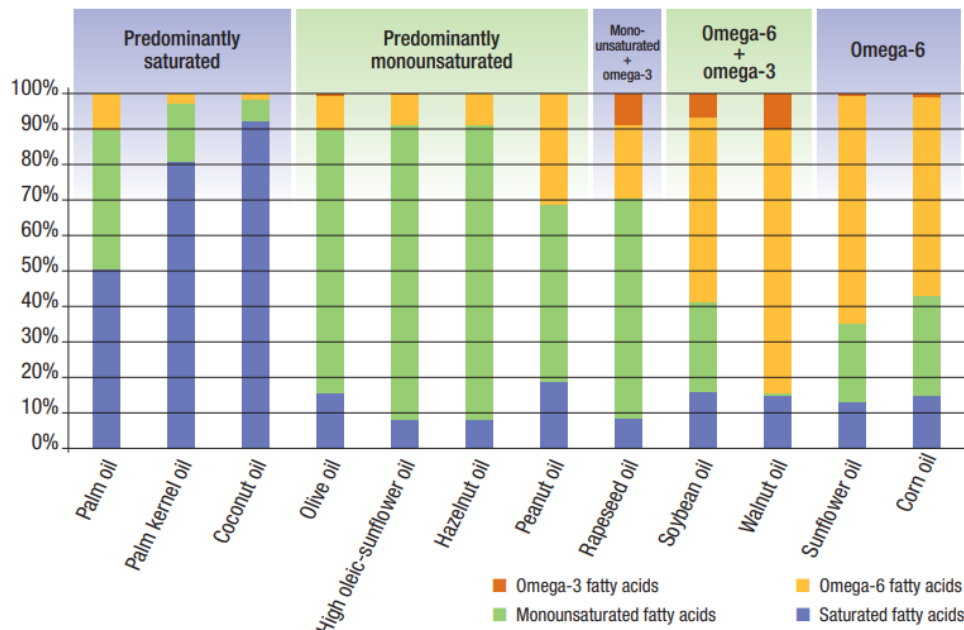


Fig. 2 Classification of Vegetable Oils and Fats According To Their Fatty Acid Profile⁹

Essential Omega-3

In the past few decades, awareness towards the role of essential fatty acids in human health and disease prevention has been ballooning¹⁵. Many studies show that higher intakes of omega-3 fatty acids (FA) are associated with a lower incidence of cardiovascular diseases^{6,17}, enhance cognitive ability⁵, and have anti-inflammatory properties¹⁰.

Alpha-linolenic acid (ALA) is the plant-based essential omega-3 FA found in vegetable oils, primarily in flaxseed, walnut, canola and soybean oils^{1,2}. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) is also known as the “long-chain” or marine omega-3 FA since they are prevalent in marine animals and can be produced by water plants such as algae. In fact, EPA and DHA have the most potent health benefits of the omega-3 FA^{1,19}. It is worth noting that the rise in vegetarianism and greater sustainability landscape are pushing consumers and manufacturers towards alternative plant sources thus the demand for algal oil consumption is increasing¹⁸.

Understanding Omega-3: Why EPA & DHA are superior to ALA

The shorter chain omega-3 FA, ALA is a prominent component of our diet, but it does not provide the health benefits seen with EPA and DHA. ALA is a precursor to EPA and DHA, in other words, ALA from vegetable oils needs to be converted into the active forms (DHA and EPA) before it can be utilised by the body. However, the conversion rate in human body is inefficient, where the conversion rate of ALA to DHA or EPA often falls within ~2% to 10%, while ALA to DHA is even lower^{3,11,13}. Due to its relatively low conversion rate, ALA might not be able to achieve the same health benefits as EPA and DHA do¹⁶. Therefore, fortification of vegetable oils with long chain omega-3 FA will help to improve the fatty acid profile.

Frying Up The Future of Cooking Oils

In view of the health benefits of long chain omega-3 FA, the future of this ingredient segment seems promising in the functional foods domain. Commoditization of innovative products are happening in the oil space, whereby cooking oil manufacturers are beginning to fortify their oils with algae omega-3 oils in particular – DHA, to promote the oil products as a healthier alternative¹⁴. At DPO International, we are honoured to be in partnership with **Hexagon Nutrition** to bring you a range of ingredient choices that will elevate the quality of your oil & fat products.

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