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PALM OIL: FEEDING THE NEXT GENERATION ON UNETHICAL OILS?

The infant and toddler food market is steadily expanding. However, how closely do we look at the ingredients list? For sugar perhaps and to ensure that products are as 'natural' as possible. Nevertheless, other ingredients appear to be finding their way into these products, with Palm Oil (PO) being one.

Given the devastating environmental effects linked to PO production, is it ethical to feed the next generation on foods containing these? This article undertakes a cross-sectional analysis of supermarket products and discusses.

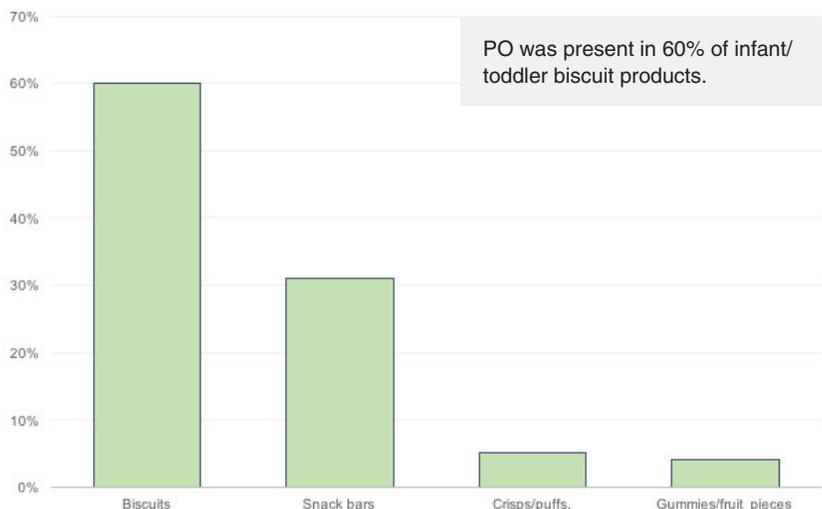
Palm Oil (PO) comes from the palm tree known as *Elaeis Guineensis* which is native to many West African countries.¹ From the palm fruit itself, two different types of oils can be extracted: palm kernel oil from the seeds and PO from the mesocarp (middle fleshy layer) itself.¹

Due to its versatility, PO has found its way into liquid detergents, lipsticks, waxes and polishes and the food market in the form of cooking oils, margarines, ice-cream, ready-to-eat meals and confectionary.² Unfortunately, the rising popularity of PO has also come at a cost.

PO cultivation requires extensive areas of land. Its production has been linked to deforestation, climate change and socioeconomic instability.³ PO plantations support fewer tree and animal species, resulting in substantial loss of biodiversity.⁴ In turn, the extensive use of PO has driven up habitat fragmentation, pollution and greenhouse gas emissions.⁴ It can be predicted that such extensive biodiversity losses will only be avoided if future PO expansion does not involve deforestation.⁴

From a health stance, PO also contains around 50% saturated fatty acids, mainly in the form of palmitic acid.⁵ These in turn raise LDL cholesterol, increasing the risk of obesity and cardiovascular disease.⁴ This is supported by a recent meta-

Figure 1: Percentage of infant and toddler snack foods containing PO





Marco Schmitt

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analysis of 30 articles, which concluded that PO compared with vegetable oil significantly raised LDL cholesterol.⁶ Authors went on to conclude that PO use should be reduced and ideally replaced with vegetable oils lower in saturated and trans fat.⁶

INFANT AND TODDLER FOODS

Whilst it is relatively well known that PO is found in an array of everyday products,² this article sets out to evaluate the use of PO in infant and toddler snack foods. Supermarket product search engines were used to identify products. The key terms 'infant' or 'toddler' snack foods were used within these.

Product ingredient information was used to extract information related to PO use. In instances where this was unavailable through supermarket websites, individual company searches were undertaken.

A total of 108 products were identified. After the exclusion of breakfast cereals and smoothies, data from 100 products was included in the main analysis. Results showed that PO was present in one in five (21%) of products reviewed. When analysing biscuit-based products, PO was found in three out of five (60%) of these. It was also evident in just under one-third (31%) of snack bars. Other products tended to use sunflower oil, or vegetable oils such as rapeseed or canola. A minority used orange oil for flavour. No products had labels for certified sustainable PO use.

Overall, these results show that PO is being used widely in specialist foods targeted at infants and young children. The use of PO did not need to be declared up until December 2014. From the 13th of December 2014, labelling regulations in the European Union declared that food products needed to identify the origin of fats, including PO, along with a description of whether these are

Figure 2: Labels indicating that products are made with certified sustainable PO



partially or fully hydrogenated.⁷ Subsequently, due to improved labelling procedures, the presence of PO can now be better identified.

WAYS FORWARD

One obvious way forward would be to replace PO with blended liquid oils such as rapeseed oil, sunflower oil or soy bean oil.⁸ Whilst these may cause some technological challenges, these are not regarded as insurmountable.⁸ Due to their liquid aggregate state, these may not be able to replace PO fractions in every application. Nevertheless, they could be used in applications where only small volumes are used.⁸

Environmentally, one approach is to use PO from sustainable producers. Some stores are now actively seeking and using products that use sustainable PO. Marks and Spencer appears to be one provider doing this, as specified in their Plan A strategy,⁹ but greater actions are needed from other stores. In cases where sustainable PO is used, the Roundtable on Sustainable Palm Oil (RSPO) label or Green Palm label may be shown, indicating that products are made with Certified Sustainable Palm Oil, also referred to as CSPO.¹⁰ These are shown in Figure 2 above.

For a health stance, substituting PO with vegetable oils may have benefits for LDL cholesterol, as identified by meta-analytical evidence.⁶ From a broader perspective, for example, with regard to blood glucose regulation or cancer risk, the jury is still out, namely due to the poor quality of research currently available.⁵ Animal studies have found PO ingestion to be associated with impaired platelet aggregability and venous thrombosis, indicating an increased risk of thromboembolic diseases.¹¹

Most recently, the European Food Safety Authority (EFSA) warned of monochloropropanediol (MCPD) risks, particularly for children;¹² 3- and 2- MCPD along with their fatty acid esters are found at the highest levels in PO, although these are also present in vegetable oils. These substances are formed during food processing when refined oils are heated at high temperatures.¹³ Nephrotoxicity symptoms have been observed in animal studies.¹² This has raised recent concerns for the EFSA who calculated that the tolerable daily intake of $0.8\mu\text{g}/\text{kg}$ body weight per day was exceeded by infants and toddlers.¹²

CONCLUSION

It is disappointing to see that infant and toddler foods are not using PO from certified sustainable sources. Equally, given the technological innovations of today, we should be heading towards the use of alternative oils, especially within children's products. For me, the inclusion of unsustainable palm oil in foods targeted at the next generation just doesn't sit well. In theory, we are feeding them potentially harmful foods whilst harming their environment in the process.

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