Rapid risk assessment on the risk of allergic reactions in UK consumers if sunflower oil is substituted with refined rapeseed oil

Area of research interest: Food hypersensitivity

Background

Rapeseed (Brassica napus) is an important oilseed crop in many countries and is considered to be the second most abundant source of edible oil in the world.

The war in Ukraine has led to industry reporting risks to disruption of the food supply chain relating to sunflower oil. A significant proportion of our sunflower oil supply comes from Ukraine.

Food businesses are reporting that UK supplies of sunflower oil are likely to be exhausted in a few weeks with some businesses already experiencing severe difficulties.

The proposed mitigation is that alternative food grade oils, such as refined rapeseed oil, are substituted for sunflower oil. It is highly unlikely that industry will be able to re-label products as quickly as oil substitutions may occur, which could lead to the presence of mis-labelled products on the market.

Summary

This rapid risk assessment considers the risk in terms of allergy to UK consumers if sunflower oil is substituted in food with food grade refined rapeseed oil without rapeseed being labelled on the packaging.

According to the EFSA Scientific Opinion on the safety of rapeseed protein isolate as a Novel Food Ingredient published in 2013, canola oil is derived from low erucic acid rapeseed varieties (EFSA Journal, 2013). In terms of processing, we could not find any differences between refined canola oil and refined rapeseed oil in the literature and therefore this rapid risk assessment on refined rapeseed oil can apply to food grade canola oil.

Based on the lack of reports of adverse reactions to refined rapeseed oil in the UK population, and lack of evidence of severe illness or deaths, we estimate:

- the **frequency of allergic reactions to refined rapeseed oil** to be **very low** (i.e. very rare but cannot be excluded).
- the **severity of illness in relation to allergic reactions to refined rapeseed oil** to be **negligible**

We know allergic reactions to rapeseed oil are very rare and - if they do occur - are mild.

Based on the data available from the Patterns and Prevalence of Adult Food Allergy (PAFA) project and the NHS Data project and information gathered from allergy specialists, we consider the **level of uncertainty** to be **medium** (i.e. there are some but no complete data available).

This rapid risk assessment may be followed up with further work subject to data availability.

Key uncertainties

- The degree to which the refining process removes proteins from rapeseed oil (and whether there are variations of refinement leading to variations in protein content).
- The amount of rapeseed protein that would be included in servings of final food products that would be eaten on a single eating occasion if refined rapeseed oil is substituted for sunflower oil.
- The amount of allergenic rapeseed protein that needs to be consumed in order to elicit an allergic reaction.
- Whether the lack of confirmed clinical data on allergic reactions to refined rapeseed oil or rapeseed more generally in the UK could be due to under-reporting.

Next steps

This risk assessment has been used to inform advice to consumers and food businesses on the substitution of sunflower oil with refined rapeseed oil.

Research report
PDF
View Allergy rapid risk assessment - Rapeseed oil substitution for sunflower oil as PDF(Open in a new window) (200.15 KB)