



## Project 4.2.1

Omega-3 oils from vegetable sources - no need to eat fish to get the fish oils benefit

**Researchers at Sheffield Hallam University have been looking into the best ways to ensure foods enriched with omega-3 retain their health giving properties during the manufacturing process.**

The benefits of a healthy and balanced diet are recognised as crucial for a long and healthy life. Omega-3 oils, most commonly found in oily fish are an essential nutrient for optimum health. They are especially good for a healthy and fully functioning blood circulatory system and help with a range of inflammatory conditions.

However, those who dislike the taste of oily fish, or who are vegetarian, may miss out on the health giving benefits of such foods. To combat this, there are foods available that are enriched with vegetarian sources of omega-3.

There are a number of common food plants that contain these substances. Two possible vegetable sources are walnuts and linseed oil from flax

seeds. Extracted oils from these sources can be used as an addition to a range of other foods without the potential problem of fish taste or odour.

Unfortunately like most omega-3 oils - regardless of source - they are susceptible to oxidative breakdown, particularly if heated in the presence of air. This means any health benefits from the added oils can be diluted, or sometimes wiped out completely.

### The research findings

The team of researchers at Sheffield Hallam University has examined omega-3 enriched foods to establish if label claims for omega-3 additions are correct and can still be justified after appropriate processing of the food.

In a number of cases, when ready to eat, the food no longer contained measurable amounts of omega-3 oils. This makes the label claim



**Above:** Sources of omega-3 include fish, walnuts and flax seeds.



illegal as the food doesn't provide the perceived health benefit.

The team has also investigated optimum processing conditions to retain the maximum levels of the oils in their original form. Processing methods such as pasteurisation and baking have been investigated using omega-3 oils from different sources.

There is no doubt that a market for foods enriched with omega-3 oils exists. However, it is crucially important to ensure that label claims, often made on the basis of additions, remain true during processing and shelf-life of the product.

If you have an interest in using omega-3 oils in food products, especially vegetable based oils, then please get in touch with our Food Innovation specialists.

### **The Food Innovation programme**

This project is part of the University's £1.3m Food Innovation programme. Funded by the Higher Education Funding Council for England (HEFCE), the food innovation programme is designed to help companies respond to the business growth opportunities created by the healthy eating agenda.

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