

## Coatings reduce fat in battered fish production

07/03/2006 - Coating fish with alginate, pectin, gellan gum or even water markedly reduces fat absorption in the final production of par-fried fish fillets, researchers have discovered.

UK-based Camden and Chorleywood Food Research Association Group (CCFRA) tested all three coatings and water in the par-frying trials. The research agency was doing the tests to demonstrate the potential effectiveness of different hydrocolloid coating materials in reducing [fat](#) uptake in battered fish products.

*"Reducing total lipid intake by the population as a whole has been a goal of the UK government for many years," the [CCFRA](#) stated. "Oil in batters is a very visible source of dietary lipid, and as such, less oily products are likely to be seen by the consumer as desirable."*

CCFRA researchers coated battered fish fillets with either water or one of a number of edible coatings such as alginate, pectin, gellan gum, methyl cellulose, and hydroxypropyl methyl cellulose. The fillets were then fully fried.

Alginate, pectin and gellan gum were also applied to fillets that were par-fried. In the par-frying trials, all three coatings, as well as water, markedly reduced the level of fat in the final product, CCFRA stated.

"The reduction seen with water suggests that the effect with the coatings was due to their waterbinding ability," the researchers stated.

"In fully fried products, the reduction in fat uptake was less marked, although an effect was still seen.

*"It is likely that the longer frying times compromised the integrity of the coatings, emphasising the need to consider the requirements of both product and process when applying edible films," the researchers concluded.*

Alginates are gelatinous precipitates extracted from brown algae. They absorb up to 300 times their weight in water. They are often used as a cosmetic thickener and stabiliser.

Gelatin-like pectin is used as a thickener in jellies and jams.

Gellan gum is produced by a pure culture fermentation of a carbohydrate by *Pseudomonas elodea*, a non-pathogenic bacteria. It is used as a thickening agent, gelling agent and stabiliser.