



**Nordic Sugar**  
Member of Nordzucker Group

**fibrex®**

makes better coating



A new study concludes that a small addition of the sugar beet fibre Fibrex® to mixtures significantly decreases oil uptake in deep fried products. Water loss from the fried meat is reduced with improved texture as result. This gives added value in terms of lower costs for the manufacturer, improved quality and a reduction in the energy value of the finished product.

#### **Benefits**

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- Significant reduction in oil uptake
- Cost efficient
- Calorie reduction
- Freeze- thaw stable
- E-number, allergen, GMO free



## Summary

The study was performed on deep fried chicken breast pieces. With 0.5% Fibrex 600 (<0.5 mm) in the mix, only half the amount of oil was absorbed in the coating mixture compared to the control sample. It is also concluded from this study that the addition of Fibrex has a positive influence on textural properties of the meat, as well as the known health benefits.

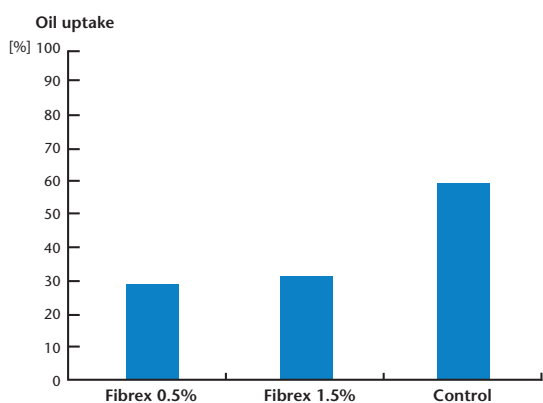
## The barrier effect!

The cell structure inside the Fibrex particle absorbs moisture from the meat surface and swells. It adsorbs oil on the outside of the particle. The bound water expands and evaporates during frying, forming a barrier effect which blocks most of the oil to cross through to the coating.

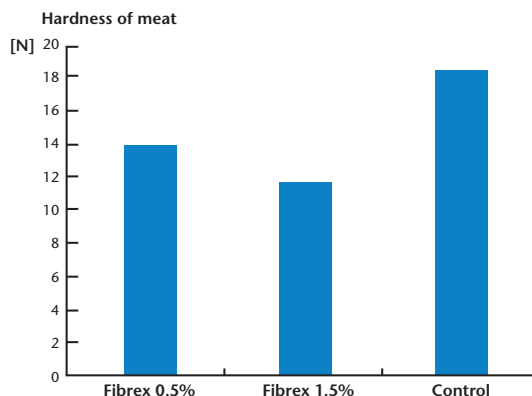
At the same time Fibrex assists to block the natural moisture inside the product from evaporating through the coating, which contributes to improved softness of the meat.

The stability of Fibrex is not affected by temperature.

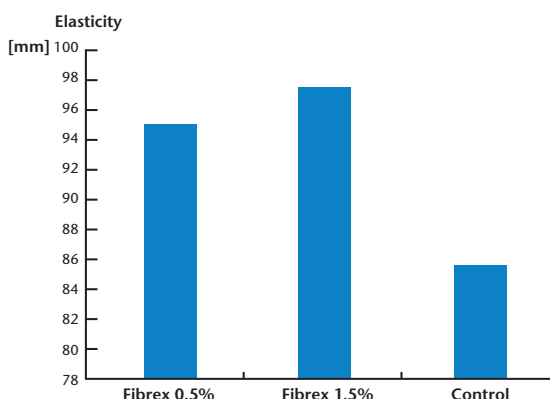
## Results in deep fried chicken



A small amount of 0.5% Fibrex 600 reduces the oil uptake from almost 60% to 30%. An increased amount of Fibrex does not further reduce oil uptake since there will be more particles that adsorb oil and the barrier effect will not be as efficient. There is an interaction with the parameters below.



Samples coated with Fibrex 600 are significantly softer than control. Fibrex interacts with the oil and closes pores in mixture microstructure. The water in the meat is unable to cross through the coating in greater amounts.



Preventing drying of the meat during the frying process preserves elasticity. Softer and more elastic meat satisfies sensory demands from the customer point of view.

The coating was made of 96% corn flour and 4% rice starch. The addition of Fibrex 600 was made by deducting corn flour at the same amount. Oil content was measured using the Soxhlet method and texture with an analyser from Stable Micro Systems TA.HD plus. Frying was made at 180°C for 5 minutes in palm oil.

Source: Sven Karlović, Damir Ježek, Blanko Tripalo, Mladen Brnčić and Tomislav Bosiljkić. Faculty of Food Technology and Biotechnology, University of Zagreb. Study: "Effect of addition of dietary fiber in coating mixtures on textural properties and oil uptake in deep fried chicken."

