

*Introducing a healthier
chicken sandwich*

Crackle-baked[®]

A new patented¹ food preparation technology developed at the University of Arkansas, makes baked chicken taste fried with 60% less fat.



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The skinny on great chicken

The food industry has become increasingly focused on healthier menu items.



Frying imparts several critical and desirable product functionalities, such as developing texture and color, and providing mouth-feel and flavor. Until now, no-one has yet to duplicate all of the unique characteristics of fried chicken with a baking process. This new technology uses the application of enzyme-modified starch as an oil delivery system in bake-only chicken to provide characteristics of fried items. This improves the nutritional value of traditional fried foods by eliminating the frying process while preserving the desired characteristics of fried products.

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How it works

This invention developed at the University of Arkansas, is an improved composition and process to bring liquid oil into a powdered or wet batter coating for food products. The coated products, when baked, have the taste, texture and appearance of fried products. This significantly reduces the fat content in the finished product (by approximately 60%), thus enabling baked products to successfully substitute for higher fat content fried foods. This process can be incorporated into existing coating lines without modification and uses all commercially available products. A peer reviewed published study in the Journal of Food Science (Volume 79, Issue 5, pages C802–C809, May 2014) has indicated that there was no significant difference between baked vs fried samples in all sensory attributes.

Various native starches were hydrolyzed by amyloglucosidase to a hydrolysis degree of 20% to 25% and plated with 50% (w/w, starch dry basis) with canola oil to create a starch-oil matrix. This matrix was then blended into a dry ingredient blend for batter and breader components. Nuggets were prepared by coated with predest, hydrated batter and breader, and the coated nuggets were steam-baked until fully cooked and then frozen until texture and sensory analyses. Sensory attributes related to fried foods (for example, crispness and mouth-coating) did not significantly differ between bake-only nuggets using the enzyme-modified starches and the fried ones. This technology can deliver sufficient quantity of oil to create sensory attributes similar to those of partially fried chicken nuggets.