

## عنوان مقاله:

The effect of de-starching of wheat bran on beta-glucanase production as a modified substrate

## محل انتشار:

سومین کنفرانس بین المللی توسعه فناوری در مهندسی شیمی (سال: 1399)

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## خلاصه مقاله:

Beta-glucan found in cereals is a non-nutrient for poultry that would cause some digestion problems. Beta-glucanase can break down the beta-glucan in cereals and make it easier to digest. In this study, the starch in wheat bran was removed. For the first time, the beta-glucanase was produced by solid-state cultivation of *Aspergillus niger* CCUG33991 on starch-free wheat bran without adding any nutrients. The influence of this economical enzyme extract on structure was investigated for the two kinds of cereals. Enzyme solution had 863.4 units of beta-glucanase activity per gram of dry substrate (U/gds). De-starching from wheat bran increased beta-glucanase production. Treatment of cereal particles with the extract modified their surfaces and made them more vulnerable to attack by digestive enzymes. The study demonstrated that beta-glucanase may be a profitable animal feed additive especially for the feeds with high beta-glucan content grains.

## کلمات کلیدی:

Cereal, Starch-free wheat bran, Beta-glucan, Beta-glucanase, Solid-state fermentation

## لینک ثابت مقاله در پایگاه سیویلیکا:

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