# Characterization of *Bacillus stearothermophilus* DL-3 produced various hydrolytic enzymes

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## Abstract

The microorganism isolated form soil was identified as *Bacillus stearothermophilus* by morphological and biochemical analyses and named *B. stearothermophilus* DL-3. It was found to degrade various organic materials such as cellulose, carboxymethyl cellulose, soluble starch, chitin, chitosan and casein. Effect of cellulose and byproducts from the industry for palm oil production on cell growth and production of the cellulase by *B. stearothermophilus* DL-3 was investigated. Amount of a specific molecular weight of a protein secreted into the medium increased with a increased concentration of cellulose as a carbon source. *B. stearothermophilus* DL-3 was found to utilize rice bran as sole carbon source. Effect of corn steep liquor as a nitrogen source on cell growth and production of the cellulase by *B. staerothermophilus* DL-3 was also investigated. Economical medium for production of the cellulase by *B. staerothermophilus* DL-3 was established with rice bran and corn steep liquor.