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PRODUCTION OF AMYLASES BY SOLID STATE  
FERMENTATION USING BACILLUS SPECIES.

BY

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PROJECT SUPERVISOR

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## ABSTRACT

Of the 11 amylolytic Bacillus species selected from a survey program, isolate Calla was the most potent producing a mean diameter starch clearing zone of 13.7 mm on nutrient starch agar plate. The isolate was used to produce amylase on a maize meal solid medium contained in a conical flask. With 5% inoculum, amylase production reached a maximum level in 4 days, with 165 units per gram (U/g). However, both inoculum size and maize meal particle size affected enzyme production. The enzyme yield from 10% inoculum was 198 U/g and was significantly different from the yield in 0.5% inoculum which was 123 U/g. Also, the amylase yield from small grain maize meal (maize rice) of 177 U/g differed significantly from the yield from large grain maize meal (samp) which was 141U/g. Therefore, under conditions of the study, the local Bacillus spp Calla was shown to be potentially useful in amylase production on solid maize meal substrates.