# NATIONAL UNIVERSITY OF SCIENCE and TECHNOLOGY

## PROJECT TITLE

# STUDIES ON FUNGI ASSOCIATED WITH FEEDS AND FOODSTUFFS

BY



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## Abstract

A total of ten samples, five of each of maize meal and chicken feed were obtained from the open market and shop, respectively in Bulawayo and analysed microbiologically. Total viable fungal counts ranged from 1.2 x $10^5$ to 3.5 x $10^5$ cfu/g. The various types of fungi were enumerated and 40 isolates were obtained. The most prevalent fungi (22 isolates) were identified as Penicillium species. Ten isolates were identified as Aspergillus species while 5 were Mycelia sterilia and 3 isolates were unidentified. Aspergillus flavus - related Aspergilli were found in all the samples examined. The Aspergilli and some of the Penicillium species showed considerable amylolytic activity on agar plates and could tolerate a reduced water activity indicationg that they were xerotolerant, while other Penicillium (10 isolates) and the unidentified isolates had no amylolytic activities and could not tolerate reduced water activity of 7% Sodium Chloride. The Mycelia sterilia had no amylolytic activity but could tolerate a salt concentration of 7%.

Overall, although mycotoxins were not assayed in this study, it has provided evidence that mycotoxigenic fungi are associated with locally processed maize meal and chicken feed and that efforts should be made to minimize their contaminations.