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SAFETY ASSESSMENT OF FERMENTED AFRICAN LOCUST BEAN SEED (*PARKIA BIGLOBOSA*) IN OGBOMOSO MARKET, OYO STATE, NIGERIA

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ABSTRACT

Locust beans have been utilized as condiment (seasoning agent, flavor enhancer) from time immemorial. It is produced locally and so can be purchased in the local market all over Nigeria. The local processing operation which does not have standard control procedure has been known to attract various hazards which can affect its qualities. As a result, microbiological study of each unit operation is necessary to assess the hazard points and possible attention and remedy.

Samples of the locust beans were collected at each of the processing steps of the unit operation. The bacterial populations of the samples were estimated using pour plate technique, identification of the bacterial isolate by standard microbiological methods (disc agar diffusion method). Characterization of bacteria isolates were based on gram staining, morphological, cultural characteristics and biochemical test. The antibiotic susceptibility profile of the isolate was also determined.

The bacterial load obtained ranges from 0.50 TVC X 10^8 to 32.0 TVC X 10^8. The number of distinct colonies obtained per plate ranges from 2.0 to 5.0 colonies. The Statistical analysis showed that Staphylococcus aureus and Bacillus cereus have the highest frequency of occurrence (19.40 %), Pseudomonas auraginosa and staphylococcus epidermis have the lowest occurrence (4.48 %). Bacterial isolated include Staphilococcus aureus, Staphylococcus epidermis, Bacillus subtilis, E. coli. Among the organisms isolated Staphylococcus aureous, Bacillus subtilis, Clostridium spp, Bacillus cereus and Pseudomonas aeuraginosa showed multiple Antibiotic Resistance. The percentage MAR ranges between 22-44 %.

This study showed that there is a need for improvement in the processing methods starting from the collection of seeds on the farm to the final product.

KEYWORDS: *Fermentation, Locust Bean, Characterization, Identification, Processing Method*