**EVALUATION OF GENETIC DIVERSITY OF NORTH-EASTERN NIGERIAN SHEEP BREEDS BY USE OF RAPD MARKERS.**

**By**

**MAIGADO ALIYU ISHIYAKU**

Department of Animal Science

Federal University, Kashere, Gombe State

**ABSTRACT**

Genetic diversity among three breeds (Yankasa, Balami and Uda) of sheep in North Eastern Nigeria was detected by Random Amplified Polymorphic DNA (RAPD) marker. The research work was conducted at Laboratory of Nigerian Institute of Medical Research, Lagos. Blood samples from (n=50) three sheep breeds were collected from across the three states in the zone (Gombe, Borno and Yobe). The DNA was extracted from the whole blood samples. Twelve genomic DNA samples from each breed were randomly selected for RAPD-PCR. One (1) RAPD primer was used to amplify DNA fragments in these breeds. Thirty six (36) RAPD fragments were amplified using the single random primer. Twenty two (22) fragments showed that polymorphism among three sheep breeds was approximately (61.11%) polymorphic while, 95 bands (38.88%) were monomorphic. The highest total amplified bands were observed in Yankasa (12) and the lowest ones in Uda breed (4) were determined while, Balami breed (8) bands were observed. The genetic distance among three sheep breeds ranged from 0.935 to 0.671. The highest genetic similarity was found as 0.330 between Yankasa and Balami while the lowest genetic similarity (0.065) was determined between Uda and Balami. The high level of genetic distance indicated that variation among three indigenous breeds of North Eastern Nigeria. The present study confirmed that the molecular genetic techniques such as RAPD-PCR could economically and efficiently be used to determine genetic distances and similarities among within breeds and to find out breed specific genetic markers.

**INSTITUTION**: University of Ilorin, Kwara State

**SUPERVISORS:** Dr. A. A. Toye

**DEGREE AWARDED:** Master of Science (M.Sc.) in Animal Science

**YEAR OF GRADUATION:** 2016