

IDENTIFICATION OF SIMPLE SEQUENCE REPEAT (SSR) MARKERS FOR VERIFICATION OF COMMERCIAL MAIZE CULTIVARS IN NIGERIA

J. Adetunji*, **I Daniel¹** and **O.O. Oyelakin²**

*Grain Legumes Improvement programme, Institute of Agricultural Research and Training, Moor Plantation, Ibadan, Nigeria.

¹Department of Plant Breeding and Seed Technology, ²Biotechnology Centre, Federal University of Agriculture, Abeokuta, Nigeria

ABSTRACT

Simple Sequence Repeat (SSR) markers are of particular importance in generic diversity and purity studies because of their high polymorphism and reproducibility. The size of experiments in terms of number of samples and number of SSR markers to run, when working on genomic DNA is often limited by cost. Therefore, to identify informative SSR primers with high PIC that can be used for genetic purity analysis in most common maize cultivars in Nigeria, forty one SSR primers collected from international Institute of Tropical Agriculture, Ibadan, Nigeria were used for PCR amplifications of DNA extracted from four maize varieties commonly grown in Nigeria. The Polymorphic Information Content was in the range of 0.00 to 0.511 with a mean of 0.162, while genetic diversity detected by the primers ranged between 0.00 to 0.594 with a mean of 0.206. Sixteen SSR primers recorded PIC value above 0.3 and were identified to be informative for purity verification while 20 SSR primers were able to detect diversity among the maize varieties in Nigeria, Reason for low average PIC value was discussed.

Keywords: *Maize, SSR Primers, DNA, PIC*
