

## Changes in Transcription of Transposable Elements in Peanut After Hybridization and Polyploidy

C. CHAVARRO\*, J. H. SHIN, K. D. KIM, B. ABERNATHY, D. J. BERTIOLI, S.C.M.

LEAL-BERTIOLI. Institute of Plant Breeding, Genetics and Genomics, The University of Georgia, Athens, GA.

Polyploidy is prevalent among plant species. Effects of polyploidy are generally associated with those of increase of DNA content, genome structural modifications, gene expression, activation of transposable elements, gene loss, and epigenetic modifications. The work described here concerns the natural allotetraploid peanut, *Arachis hyogaea* L, the wild allotetraploid *A. monticola*, and synthetic allotetraploids derived from *A. duranensis* and *A. ipaensis*, peanut's diploid progenitors. We studied changes in transcription of transposable elements, which do not necessarily indicate changes in activity, after hybridization and tetraploidization. Transcription in these allotetraploids was compared to the two diploid progenitors *A. ipaensis* and *A. duranensis* and to the diploid hybrid. These comparisons showed that the expression of the 1<sup>st</sup> generation synthetic allotetraploid was most similar to the diploids with only 19 differentially expressed TEs (out of 936 studied). Most of the differentially expressed TEs being non-LTRs from the LINE family. The comparisons indicate a possible tendency for TE transcription to increase somewhat in the generations following hybridization and tetraploidization.