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GENETIC VARIABILITY FOR MORPHOLOGICAL AND VARIANCE COMPONENTS IN GROUNDNUTS.

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ABSTRACT

Groundnut (Arachis hypogea) is one of the most important grain legumes rich in protein and oil. Twelve groundnut genotypes from Zimbabwe were evaluated on the Kalahari sands and evaluated for 24 standard morphological characteristics. The descriptors were based on International Board of Plant genetic Resource and ICRISAT standards. Groundnuts were planted in buckets and in the field. Quantitative data collected was subjected to a normality test, analyzed using ANOVA and means separated using least significance (LSD 0.05%) in think that GENSTAT 14 Edition. The results of the qualitative data collected showed that flower colour and peg colour A were monomorphic, cotyledon colour was 75% yellow and 25% yellow green, there were four types of leaf shape observed, elliptic, narrow elliptic, orbicular and wide. Three types of growth habit were observed, decumbent 2 were 8.5%; decumbent 3 (41.5%) and erect with 50%. Branching pattern were three types, alternate, Irregular and sequential. Stem hairiness’ 58.5% were abundant and 41.5% scarce. Nodulation, four classes were observed, moderate, slight, prolific and very prolific nodules. Pod reticulation was classified into four classes, moderate, prominent, slight and smooth. Quantitative traits had significant variation across the 12 genotypes. The presence of great genetic variability suggested that genetic improvement can be done in the selected genotypes. Furthermore the significant correlation between leaf area, pod length and width suggest that one can be used as a marker for the other during selection. Similarly the high heritability estimates is indicative that the groundnut germplasm can be improved for economically important traits such as yield with relative ease when selection is done in the Kalahari sandy areas of Zimbabwe.