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Morojele, Eric M. (1997). Comparison of morphological and storage protein markers in identifying common bean (*Phaseolus vulgaris* L.) genotypes. (Supervisors: Dr. D. M. N. Mbewe and Dr. L. E. Mumba).

The correct identification of crop cultivars is of utmost importance to the plant breeders and agronomist in the breeding and production of common bean, respectively. The study compared the accuracy of morphological and storage protein markers in identifying 42 common bean genotypes obtained from Lesotho, Zambia and South Africa. Morphological data on 17 characters were collected following IBPGRU descriptor list (1988) and analysed using principal component and cluster analysis. In storage protein markers, SDS-PAGE was used to extract residual protein and develop electrophoregrams from which the bands were scored, generating a matrix of 1 and 0. Component and cluster analysis were performed using the data set. Morphological markers distinguished 35 individual genotypes and 2 groups of genotypes: one group consisted of three genotypes obtained from Zambia while the other group consisted of one genotype from Zambia and two from Lesotho. Storage protein markers identified 38 individual genotypes and 7 intra-accessions while 3 genotypes and 3 intra-accessions were indistinguishable. The results revealed that storage protein markers were more accurate than the morphological markers because the former distinguished more genotypes and intra-accessions. It is, therefore, recommended that storage protein markers be used to complement morphological markers and where storage protein markers cannot distinguish genotypes, use of RFLP should be explored.