

GENETIC DIVERGENCE AND RELATIONSHIPS OF YIELD
COMPONENTS AND SEED QUALITY CHARACTERS IN
SOME COLLECTIONS OF WINGED BEAN
(PSOPHOCARPUS TETRAGONOLOBUS (L) DC)

By

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ABSTRACT

Twenty two lines of winged bean originating from Sri Lanka, Papua New Guinea, Nigeria, Indonesia and Thailand were evaluated for 21 agronomic, seed yield, yield components and seed quality characters.

Analysis of variance, covariance, genetic divergence, character correlations and path analysis were computed.

Of the 21 characters studied, only 11 characters showed significant variability among the lines. Genetic divergence based on D^2 - statistic and canonical analysis grouped the lines into eight genetic clusters. The analysis indicated very poor or no relationship between geographic origin and genetic diversity.

High heritability and genetic advance was predicted for maturity percentage, leaf area and seed yield. High correlation and direct effect of flowering and leaf area on yield indicated that improvement for yield can be achieved by selecting for yield and by manipulating flowering and leaf area. The poor correlation between yield and protein suggests that both these characters have to be improved independently.