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Full Length Research Paper

Variation and interrelationships for pod and seed yield characters in bambara groundnut (*Vigna subterrenea*) in Adamawa State, Nigeria

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Abstract

Entries of ten accessions of bambara groundnut were evaluated for variation and interrelationships for pod and seed yield characters in a randomized complete block design with three replication for two years. Seed and pod yield component characters were measured and evaluated. Significant differences ($P < 0.05$) were recorded for seedling and seed yield characters. High broad sense heritability provides that to large extent additive genetic effects are more important than non additive and environmental influences. The number of nodules and effective nodules could effectively discriminate among the accessions evaluated. The number of trifoliolate had the largest direct effect on pod yield, suggesting its influence on pod yield, while the number of effective nodules recorded the largest indirect effect on pod yield and its largest indirect effect through fodder weight/plant. The path analysis revealed the adverse effect of pod/plant on pod yield/ha⁻¹ was largely due to indirect effect of plant height at flowering, fodder weight and number of effective nodules. The seed weight had the largest influence on seed yield/ha⁻¹; this was masked by plant height at flowering and petiole length. Pod length could be a selection indicator for seed yield. The incorporation of these

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characters in existing accessions is practicable because of their relative importance.

Key words: Association analysis, bambara groundnut, heritability, masking action, phenotypic variance, pod and seed yield ha⁻¹.

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