

VARIETAL EVALUATION OF FIVE IMPROVED PIGEONPEA (Cajanus cajan L.) GENOTYPES IN SANDY REGOSOLS

BY

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ABSTRACT

An experiment was conducted to evaluate four improved pigeonpea (Cajanus cajan (L.) Mill sp.) genotypes and a check cultivar on sandy regosols during the period from December, 1991 to May, 1992 at the agricultural farm of the Eastern University, Chenkalady; located in the Eastern region of Sri Lanka.

The genotypes ICPL 88018, ICPL 88026, ICPL 87098, ICPL 90009 and the check variety ICPL 87 were planted in a Randomized Complete Block Design (RCBD) with four replications and the trial was conducted under the recommended cultural practices. The data on days to 50% flowering, days to 100% flowering, plant height at 50% flowering, plant height at 100% flowering, days to 50% podding, days to 100% podding, nodule dry weight, pod/seed ratio, number of pods per plant, number of seeds per pod, one hundred seed weight, days to maturity, seed yield, and insect damage were collected in this investigation.

Analysis of Variance (ANOVA) studies indicated that growth parameters such as days to 50% flowering, days to 100% flowering and days to maturity ; Yield components such as pod/seed ratio, 100-seed weight and damage by insect pest had significant differences among the genotypes tested . Other characters studied, including seed yield, did not show significant differences among the genotypes. Significant correlations were observed between the following plant characteristics of pigeonpea

days to 50% flowering with days to 100% flowering, plant height at 100% flowering , days to 100% podding , and days to maturity, plant height at 50% flowering with days to 100% flowering, insect damage, and pod/seed ratio.

Among the new genotypes tested ICPL 88026 and ICPL 87098 produced seed yield closer to the check cultivar ICPL 87. These two new genotypes possessed many traits in common with ICPL 87 but the remarkable feature was that they showed low level of insect damage by pod borer complex (Maruca testulalis, Helicoverpa armigera, Spodoptera sp.) which are supposed to be the major constraints in the expansion of pigeonpea production.

It is noteworthy to highlight that ICPL 87098 showed a significantly lower level of insect damage than the check cultivar ICPL 87. It may be possible to conclude that ICPL 88026 and ICPL 87098 are the potential candidates as the substitutes for ICPL 87 in order to grow on sandy regosols under the conditions prevailing in the Eastern region of Shri Lanka. Further more, a short-duration genotypes ICPL 90009 maturing in 95 days has also been identified. Since pigeonpea is a new crop in this region more investigations in cultivar identification and also in agronomic aspects are needed in the near future for the expansion of this crop in the Eastern region of Shri Lanka.

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