Effect of Deflowering and Defoliation During Reproductive Phase on Flower and Pod Abscission and Yield of Pigeon Peas

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Two indeterminate genotypes of pigeon pea, 423/60 and ICPL 7403 and a determinate genotype NPP 670, were subjected to deflowering and defoliation treatments under glass-house and field conditions. Four levels of deflowering, 0, 25, 50 and 75%, were imposed. Defoliation treatments at similar levels were exacted on parallel concurrent experiments. Deflowering led to decreased percent abscission except in the determinate genotype. Number of flowers formed per plant was, however increased. Number of pods per plant and grain yield were little affected. Effects of mild defoliation treatments (25 and 50%) on percent abscission were generally similar to those of deflowering but 75% defoliation increased abscission. Number of pods per node was distinctly increased by deflowering and decreased by defoliation. It is suggested that competition for photoassimilates among developing reproductive sinks influences abscission in pigeon peas. That the number of pods per node was highly responsive to manipulation suggests that developing reproductive sinks draw assimilates mainly from current photosynthesis of adjacent source leaves.

KEY WORDS: Pigeon pea, deflowering, defoliation.