B-51 Effect of deflowering on seed yield of cowpea (*Vigna unguiculate*)

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Cowpea is predominantly a nutritionally important crop in Sri Lanka. This crop is grown for its mature seeds, and/or for its immature fruits and leaves.

Cowpea is an indeterminate plant. The flowering starts from 3 weeks after planting and continues. Many flowers that open, fail to develop into mature fruits at different stages of development. The depression of yield results from

the depradations of post-flowering insect pests leading to fruit shed or which feed on them voraciously.

Plants are attacked by insects which cause flower and fruit drop. It is reported that less than 20% of the flowers which open produce fruits, a loss of reproductive and yield potential). An investigation was initiated to study the effect of flower loss on yield of cowpea to determine level of flower loss that may be allowed.

The investigation was carried out at Eastern University, Chenkalady located in DL2 agro-ecological zone during April - July 1994.

The treatments: (A) no deflowering; (B) deflowering for 6 days;(C) deflowering for 9 days and (D) deflowering for 12 days were arranged in a Randomised Complete Block Design with 3 replicates.

This investigation was carried out using cowpea cv-MI-35, sprayed with insecticide (Monocrotophos) at weekly intervals and was managed with recommended cultural practices (Dept. of Agriculture, 1990). In each plot 6 plants were selected at random and tagged to obtain data on number of flowers removed, number of flowers that opened after deflowering, number of mature pods and seed yield.

Deflowering did not significantly affect the yield among the treatments. It was reported that less than 20% of the flowers which open produce fruits. The loss of reproductive and yield potential is due to the competition for assimilates, hot temperature diurnal temperature fluctuations and drought photoperiod.

The earlier formed fruits may arrest the formaiton and development of fruits due to competition. Since, Cowpea is a indeterminate plant, removal of earlier formed flowers was compensated by the formation of new additional flowers and retention of fruits formed during later stage.

It is observed that Cowpea plants have the ability to compensate flower loss upto 12 days from flower initiation which was indicated by the number of pods that were ultimately developed and formed seeds. If the flowers are attacked by pest upto such period, this may not affect the yield to a significant level. The yield is compensated by the production of additional flowers that would develop into pods.

It was also noticed that a small proportion of pods were formed in relation to the total number of flowers which developed under such conditions. Hence, the ability to compensate the loss of flowers may be considered a character of agronomic importance in cowpea.

It may be concluded that cowpea cv-MI-35 has the ability to compensate flower loss upto 12 days from flower initiation which is indicated by number of pods that ultimately developed into pods and formed seeds. The compensation of flower loss in this crop is of economic importance.