Effect of source and sink removal on yield attributes and yield of mungbean [Vigna radiata (L.) Wilczek]

ABSTRACT

Field experiments were conducted to investigate the effect of source (leaf) and sink (flower and pod) removal on some morphological characters, and yield and its attributes in high and low yielding mungbean genotypes grown under sub-tropical condition. Four levels of defoliation (0, 8, 16 and 33%), four levels of deflowering (no deflowering, deflowering of all opened flowers borne up to 10th or 15th or 20th nodes in a raceme), and four levels of depodding (no depodding, depodding of all pods for 5 or 10 or 15 days after anthesis) were employed. The results showed that defoliation had no significant effect on seed yield in high yielding genotype, while it reduced the yield in low yielding one under 16 and 33% defoliation. Deflowering up to 10th nodes had no significant effect on seed yield though deflowering beyond 10th nodes in a raceme reduced the seed yield in high yielding mungbean genotype; low yielding genotype exhibited reduced seed yield under any level of deflowering. Depodding up to five days from anthesis had no negative effect on seed yield though depodding beyond this period reduced the yield depending upon the magnitude of depodding. Pod number per plant, number of seeds per pod and 1000-seed weight were the yield attributes sensitive to deflowering and depodding. The results suggest that mungbean plant, especially high yielding genotypes, can compensate seed yield to moderate source loss and partial sink loss.

Keyword: Defoliation; Deflowering; Depodding; Mungbean; Yield