

Abstract

The response of cowpea (*Vigna unguiculata*) inoculated with *Blackeye cowpea mosaic virus* (BICMV), *Cowpea aphid-borne mosaic virus* (CABMV), and BICMV+CABMV was investigated under greenhouse conditions, using completely randomised design with six replications. Seedlings of the cowpea line TVU 76 were mechanically inoculated at 10 days after sowing. Uninoculated cowpea plants served as controls. Disease incidence, severity and yield parameters were recorded. Virus concentration in leaf samples was determined using Antigen Coated Plate-Enzyme Linked Immunosorbent Assay (ACP-ELISA). One hundred percent infection was obtained at two weeks post inoculation regardless of the virus combination. CABMV and BICMV+CABMV elicited the highest symptom score of 4 while the lowest score of 2.8 was observed in BICMV-inoculated plants. Mixed infections enhanced the highest virus concentration (1.7). The virus titre value in plants infected with CABMV (0.8) was relatively higher than in the BICMV-inoculated plants (0.5). The seeds from uninoculated plants gave the highest (2.1 g) weight. Mixed infections with BICMV+CABMV resulted in the lowest seed weight per plant (0.4 g), followed by single infection with CABMV (0.7 g), whereas the value was 0.8 g in the BICMV-infected plants. Adoption of cowpea cultivars with genetic resistance against multiple virus infections is recommended in order to guard against complete crop failure.

Keywords: Disease incidence and severity; seed weight; *Vigna unguiculata*; virus concentration