

Impact of yellow mite (*Polyphagotarsonemus latus* [Banks]) density on host's (*Corchorus capsularis* L.) phenology and assessment of yield loss under field conditions

ABSTRACT

Yellow mite, *Polyphagotarsonemus latus* [Banks] (Acari: Tarsonemidae) is one of the major pests of jute crops (*Corchorus capsularis* L.) in Bangladesh. In this study, indigenous varieties of jute were used for treatments, namely, CVL-1, CVE-3, BJC-7370 and BJC-83. The paired plot treatments (treated and untreated controls) were laid out under field conditions. The effects of yellow mite were studied at three stages of the jute plants: 60 days after sowing (DAS), 90 DAS and 120 DAS. A higher number of mite stages was observed up to 90 DAS and then declined up to 120 DAS in var. BJC-7370 among two other varieties, Deshi and Tossa. The percentage of infestation and damage indexes (scale 0–5) were measured to relate yellow mite injuries to the number of leaves, leaf area, fresh leaf weight, dry leaf weight, soluble solids, plant height, base diameter, fiber weight, stick weight, number of flowers per plant, number of pods, pod weight per plant, seeds per pod, seed weight and 1000 seeds' weight of plants infested at three different phenological stages. The highest fiber yield loss was found in the variety BJC-7370 (59.75%), followed by BJC-83 (55.56%), CVE-3 (54.30%) and CVL-1 (50.05). The highest stick yield losses were found in the following order: BJC-7370 (54.54%) > BJC-83 (51.17%) > CVL-1 (43.68%) > CVE-3 (37.80%) and BJC-7370 (30.33%) > CVL-1 (27.83%) > BJC-83 (24.16%) > CVE-3 (22.11%) for the highest seed yield under field conditions for *Corchorus capsularis*. High yellow mite population in untreated checks decreased plant growth and showed significant losses in yield production for the variety BJC-7370.