

INFLUENCE OF SPATIAL CROPPING PATTERNS OF COTTON CULTIVATION ON POPULATION DYNAMICS OF MIRID BUG, *Creontiades biseratense* (Distant)

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Miridbug *Creontiades biseratense* (Distant) has been reported as an emerging pest on Bt cotton from the States of Tamil Nadu and Karnataka. Nymphs and adults of *C. biseratense* cause damage to squares, flowers and tender bolls leading to the shrivelling of affected parts and premature opening and subsequent yield reduction. Present study assessed the population dynamics of *C. biseratense* across different spatial cropping patterns of cotton viz., cotton surrounded by non-target crop (Tomato) and cotton with intercrop (cowpea) during (2008-09) and additional adjacent cropping patterns viz., cotton adjacent to weedy road and cotton adjacent to fallow weeds during 2009-10 with sole crop of cotton as control during both the years under farmers field conditions at Coimbatore, Tamil Nadu. During 2008-09, nymphal population varied significantly with the cropping system between 37th standard meteorological week (SMW) and 41st SMW wherein minimum population was recorded in cotton + pulses (0.85-2.90 /plant) consistently. Among the five cropping patterns during 2009-10, cotton adjacent to weedy road recorded the maximum seasonal mean population of nymphs besides for two periods. The adult population recorded across different cropping patterns was of the order: cotton + cowpea (0.80-1.20 /plant) > cotton surrounded by tomato (1.05-1.70 /plant) > cotton alone > cotton adjacent to weedy road > cotton adjacent to fallow fields. Significant difference in square damage was recorded during second fortnights of September, November and December during 2008-09. Square damage recorded was minimum in cotton + cowpea (8.40-12.76%) and cotton + tomato (10.62-14.86%) and maximum in cotton alone (14.67-30.02%). During 2009-10, though cotton adjacent to weedy road recorded maximum square damage initially, cotton surrounded by tomato recorded maximum damage in the later stages of the crop. Cotton + cowpea cropping system recorded minimum boll damage (9.06-18.61%) as compared to other patterns of cotton cultivation. Cotton surrounded by tomato recorded maximum square and boll damage. The results indicated that cotton + cowpea intercrop with weed free surroundings reduced the mirid bug population, and forms an important component of IPM package for the management of the pest.