

Influence of corn plant hopper infestation on chemical constituents in sweet sorghum. Indian

The corn planthopper, *Peregrinus maidis* (Ashmead) (Homoptera: Delphacidae) causes serious economic losses in corn and sorghum. The insect occurs mostly at humid low elevations in the tropics and coastal areas of subtropical and temperate regions of all continents, the Caribbean Islands, and islands in the Atlantic, Indian, and Pacific Oceans. This review provides a detailed compilation on the chronological progress made in basic and strategic aspects of research on the interactions between *P. maidis* and various host plants. The nature of damage by *P. maidis* and its economic impact, ecobiology in relation to host diversity, abiotic, and seasonal interactions; and life tables and alary polymorphism are discussed. Host plant resistance studies indicate that very few sources of resistance to *P. maidis* have been identified in maize, sorghum, or pearl millet, warranting a need to standardize rapid and reliable screening methods. The behavioral responses vis-à-vis mechanisms of resistance show the predominance of antixenosis for colonization and/or oviposition with variable degrees of antibiosis affecting life cycle parameters of *P. maidis* on maize and sorghum. The role of morphological traits, physiological mechanisms, and biochemical factors governing resistance are described. Population dynamics based on density-dependent and density-independent interactions are also discussed. In addition, aspects of *P. maidis* on chemical control, biological control, and trophobiosis interactions are listed. Future thrusts on research approaches are also discussed. Genetic engineering techniques involving lectin genes in the development of transgenic plants, and the molecular mapping of genes conferring resistance to both *P. maidis* and its transmitted virus diseases may stimulate further research and lead to better understanding of *P. maidis*—host plant interactions.

Keywords :causes serious economic losses.