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ABSTRACT

Lepidopteran stemborers, mainly the African stemborer *Busseola fusca* Fuller and spotted stemborer *Chilo partellus* Swinhoe, are among the economically important pests of sorghum in Kenya. Identification of sources of resistance is valuable for the development of an integrated pest management strategy to minimize losses. This study evaluated 27 genotypes with artificial infestations (mostly for tolerance) in two different agroecological zones. Data on damage from leaf feeding, dead heart, exit holes, and stem tunnelling; plant height; days to 50% flowering; total grain yield; and hundred-grain mass were collected. Significant differences ($P < 0.001$) were observed in all the traits evaluated, except leaf damage, under infestation by *C. partellus*. Classification into different categories of resistance revealed genetic variation. Genotypes resistant/moderately resistant to both pests were as follows: ICSA 464 . ICSB 464 . ICSB 467 . ICSA 472 . ICSB 472 . ICSA 473 . ICSA 474 . IESV 91131 DL . Macia. The relative contributions of the damage parameters to grain yield loss were partitioned into direct and indirect relationships by path coefficient analysis with grain yield as the resultant variable. The results revealed that damage from exit holes, dead heart, leaf feeding and stem tunnelling had a negative indirect effect on grain yield. The identified genotypes can be used to enhance resistance to both pests in susceptible cultivars that farmers prefer.

Key words

Busseola fusca, *Chilo partellus*, host plant resistance, tolerance, *Sorghum bicolor*