

Abstract

The defoliating beetle *Mesoplatys ochroptera* Stål (Coleoptera: Chrysomelidae) has become a serious pest of the tropical legume *Sesbania sesban* (L.) Merrill in agroforestry systems in eastern and southern African countries. In this study, 32 accessions of *Sesbania* spp. collected from eastern and southern Africa were screened for resistance to *M. ochroptera* at Msekera, Zambia. Two mechanisms of resistance—antixenosis and antibiosis—were indicated in the different accessions. Accessions of *Sesbania bispinosa*, *S. leptocarpa* and *S. macrantha* were found to be more preferred by the insect compared to *S. sesban* and *S. rostrata* accessions. Preference of accessions was negatively correlated with leaf-hair density and positively correlated with the number of leaves per seedling and plant height. Under the conditions of eastern Zambia, some accessions of *S. sesban* from Kenya, Malawi and Ethiopia were found to be comparable to the Zambian accessions in survival, growth and biomass production. Four accessions of *S. sesban*—Kakamega (ex Kibwezi) and Kisii 2 from Kenya, Zwai 090 from Ethiopia and Rumphi from Malawi—appeared to compensate well for *M. ochroptera* damage.