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Effect of fungicides used for powdery mildew disease management on the African weaver ant, *Oecophylla longinoda* (Hymenoptera: Formicidae), a biocontrol agent of sap-sucking pests in cashew crops in Tanzania

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Abstract. In this study, the effect of the application of three powdery mildew fungicides, namely triadimenol, triadimefon and sulphur, on the African weaver ant (AWA), *Oecophylla longinoda* Latreille, was evaluated for two seasons in two cashew fields, one each in the Bagamoyo and Mkuranga districts, Coast region, Tanzania. The fungicides were applied at monthly intervals, and the dynamics of AWA were monitored monthly by counting the number of leaf nests per tree and trails on main branches. There were no significant differences among the treatments on AWA at different observation dates in terms of the number of leaf nests and colonization of AWA trails per tree in the two cashew fields studied. In August 2011, for example, the number of leaf nests before application ranged from 7.8 to 9.0 and 13.6 to 14.6 in Bagamoyo and Mkuranga, respectively, and after application, it ranged from 7.8 to 10.0 and 12.4 to 15.2 in Bagamoyo and Mkuranga, respectively. The three powdery mildew fungicides did not have detrimental effects on the abundance of AWA in cashew fields and can, therefore, be used together with AWA as important components of an integrated pest and disease management programme for cashew crops in Tanzania.

Key words: colonization, triadimenol, triadimefon, sulphur

Introduction

Cashew, *Anacardium occidentale* Linnaeus (Sapindales: Anacardiaceae), is an important export crop in Tanzania. It earned US$54.1 million in 2006, which accounted for 10% of the total value of foreign exchange earnings (Anonymous, 2009). However, the production of cashew nut is seriously constrained by a diverse range of diseases and insect pests. The powdery mildew disease (PMD) caused by *Oidium anacardii* Noack (Erysiphales: Erysiphaceae) was first observed in 1979, and it has become an annual epidemic in all cashew cultivars planted in Tanzania (Martin *et al.*, 1997; Sijaona *et al.*, 2001). The flowers, buds, young leaves and shoots of untreated trees are attacked by the mildew, resulting

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