

The entomopathogenic fungus *Metarhizium brunneum* reduces *Neophilaenus campestris* population on the cover crop in an olive grove in Córdoba (Spain)

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Entomopathogenic ascomycetes (EA) are among the very few alternatives for the microbial control of pierce-sucking spittlebugs due to their unique contact mode of action and their rhizosphere competent and endophytic behaviour, which allow several strategic uses directed toward reducing the populations of spittlebug nymphs or adults or impairing any possible spittlebug-related disease transmission. Aiming at this goal, we conducted a field experiment to evaluate the *Metarhizium brunneum* EAMa 01/58-Su strain, which was selected for its potential in controlling the olive fruit fly, to reduce the population of the spittlebug, *Neophilaenus campestris* (Fallen) (Hemiptera: Aphrophoridae), as potential vector of the bacterium *Xylella fastidiosa* (Wells et al. 1986) (Xathomonadales: Xanthomonadaceae) widespread in the Andalusian olive agroecosystems. For that, the fungal strain was sprayed against nymphs of *N. campestris* naturally present in the vegetation of an olive grove in Córdoba (Spain) and its impact was assessed using both the variation in the relative population density and the Henderson and Tilton efficacy. The fungal spray application significantly reduced both the nymph and the adult populations of *N. campestris* naturally present in the adventitious plants throughout the 7 days monitoring period. Moreover, the fungal application against *N. campestris* nymphs was 100.0% effective, whereas the efficacy of the treatment against adults varied from 66.7 to 100.0%. Meanwhile, the fungal strain was detected both in the soil and endophytically in the natural cover crop through the monitoring period. Hence, this strain could be included as part of a *N. campestris* IPM program targeting high spittlebug populations in natural or artificial covers in the olive crops.

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