

Abstract

Metarhizium anisopliae conidia were formulated in water or in olive oil containing 3% commercial sunscreens (EverySun® or E45 Sun Block 50®) and exposed to an artificial UV source for up to 5 hours. Survival of conidia after 5 h of exposure to UV in oil formulation was 29% when protected with EverySun, 40% when protected with E45, and 4% in control. In comparison, survival of conidia formulated in water was 13% when protected with EverySun, 24% when protected with E45, and 0% in control. Furthermore, the influence of sunscreens on conidia viability and virulence to *Rhipicephalus evertsi evertsi* larvae and unfed adult ticks was evaluated. Adding these compounds to the conidial formulations did not reduce the viability of the conidia. Larval mortality was 95 and 100%, while unfed adult mortality was 90 and 97% after being exposed to unprotected conidia formulated in water or in oil, respectively. Conidia protected by EverySun or E45 formulated in water, induced 88 and 83% mortality in larvae, and 92 and 90% mortality in unfed adults, respectively. Conidia suspended in oil and protected by EverySun or E45 induced 94 and 91% mortality in larvae, and 83 and 81% in unfed adults, respectively. These observations indicate that olive oil and the two sunscreens confer protection to conidia against damages by UV radiation without interfering with their pathogenicity to ticks