World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:16, No:12, 2022

Control of the Pest Bemisia tabaci With the Entomopathogenic Fungus Beauveria bassiana in a Geothermal Greenhouse in Southern Tunisia

Authors : Besma Hamrouni Assadi, Mohamed Sadok Belkadhi

Abstract : The whitefly Bemisia tabaci is a cosmopolitan insect that causes serious damage to greenhouse crops. It is increasingly recognized that the use of biological control means such as entomopathogenic fungi presents a sustainable solution to integrated pest management programs. In order to reduce the use of chemical pesticides, Beauveria bassiana strain R444 was tested against eggs and second, third and fourth instar larvae of B. tabaci in a geothermal tomato greenhouse in southern Tunisia. This entomopathogenic fungus was compared to a chemical pesticide Imidacloprid and an untreated control. We found significant mortality of individuals caused by B. bassiana comparable to that caused by the chemical pesticide. After four weeks of follow-up, this fungus causes a mortality of eggs and larvae of B. tabaci that exceeds 60%. It shows that the use of entomopathogenic fungi can help reduce the use of pesticides to control B. tabaci on geothermal crops.

Keywords : entomopathogenic fungi, Bemisia tabaci, geothermal greenhouse, integrated pest management programs
Conference Title : ICFPPT 2022 : International Conference on Fertilizer and Plant Protection Technologies
Conference Location : Paris, France
Conference Dates : December 29-30, 2022