Agricultura Técnica en México
ISSN: 0568-2517
contacto@agriculturarecnica.net.mx
Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias
México

Garzón Tiznado, José Antonio; Cárdenas Valenzuela, Oralia Guadalupe; Bujanos Muñiz, Rafael; Marín Jarillo, Antonio; Becerra Flora, Alicia; Velarde Felix, Sixto; Reyes Moreno, Cuauhtémoc; González Chavira, Mario; Martínez Carrillo, José Luis

Asociación de Hemiptera: Triozidae con la enfermedad `permanente del tomate´ en México
Agricultura Técnica en México, vol. 35, núm. 1, enero-marzo, 2009, pp. 58-69
Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias
Texcoco, México

Available in: http://www.redalyc.org/articulo.oa?id=60835106

Abstract

The disease known as `permanente del tomate´ produces the greatest damage in those regions where tomato plantings are established in the spring-summer season. The etiology of this disease has been related to non-cultured type bacteria and its transmission with the psillid Bactericera (=Paratrioza) cockerelli (Sulc) (Hemiptera: Triozidae). The objective of this research was to discern the association between the psillid and the disease. The obtention of inoculum and the bioassays for transmission were performed in entomological cages under greenhouse conditions. Transmission from tomato plant to tomato plant was performed through grafting from plants that showed the characteristic symptoms of the disease in the field. Tissue from diseased plants and from the psillid was analyzed by PCR, hybridization and sequenciation of cloned products. The reproduction of the disease symptoms was observed in tomato plants grafted and in plants exposed to B. cockerelli. Bioassays of transmission of this pathogen by the insect were positive, and the acquisition periods were: 15 min, 2, 3 and 48 h for nymphs and 30 min, 2, 3, 8 and 48 h for adults, with transmission periods of 15 min, 2 and 24 h for adults and 24 h of incubation. The product of PCR of B cockerelli was cloned and partially sequenced and registered in the gene bank with the number DQ355020, this sequence presented 99% similarity with accessions DQ355018 and DQ355019 obtained from diseased tomato plants with permanente del tomate, which confirms the association between the insect and the disease.

Keywords

Bactericera (=Paratrioza) cockerelli (Sulc) (Hemiptera: Triozidae), disease permanente del tomate, psillid.