Title

Synthesis results from eight years of field testing insecticides against Asian citrus psyllid Diaphorina citri vector of huanglongbing: Considerations and Implications

Journal

Journal of Citrus Pathology, 1(1)

Authors

Qureshi, Jawwad A.
Kostyk, Barry C.
Stansly, Philip A.

Publication Date

2014

DOI

10.5070/C411025081

6.5

Synthesis results from eight years of field testing insecticides against Asian citrus psyllid *Diaphorina citri* vector of huanglongbing: Considerations and Implications

Qureshi, J.A., Kostyk, B.C., and Stansly, P.A.

University of Florida/IFAS, Department of Entomology and Nematology, Southwest Florida Research and Education Center (SWFREC), Immokalee, Florida, USA, email: jawwadq@ufl.edu

Diaphorina citri also known as Asian citrus psyllid (ACP) vectors *Candidatus* Liberibacter asiaticus, causal organism of the Asian "huanglongbing" or citrus greening disease and therefore needs to be managed effectively. Forty-three insecticides containing 39 active ingredients (a.i) recommended or experimental were tested during the growing season in foliar sprays (171 treatments, 35 a.i) targeted at flushing trees and soil applications (26 treatments, 6 a.i) to control ACP in citrus between 2005-2012. Psyllid suppression varied with product and lasted 1-7 weeks using foliar sprays on mature trees and 6-33 weeks using soil drenches in young trees. Experimental insecticides tolfenpyrad (Apta 15 SC), flupyradifurone (Sivanto 200 SL), sulfoxaflor (Closer 240 SC), cyantraniliprole (Verimark), and *Chromobacterium substugae* (Grandevo/MBI-203 EP) performed equal to or better than recommended products. Unfortunately, eggs and young nymphs are protected inside unfolded leaves such that insecticidal sprays may kill more predators and parasitoids common during growing season that would otherwise attack immature ACP and other citrus pests. Addition of new insecticides will broaden the range of products available to control ACP. Nevertheless, one to two sprays of broad-spectrum insecticides during dormant winter period when most mature trees are not producing new growth and beneficial insects are scarce can provide up to 6 months of ACP suppression into growing season and also conserve beneficial insects. Therefore, psyllid suppression using one or two dormant winter sprays of broad-spectrum insecticides followed by regular monitoring and rotation of relatively selective chemistries during growing season will help to reduce incidence of huanglongbing, pest resistance to insecticides and secondary pest outbreaks.

References

Qureshi, J. A., B. C. Kostyk and P. A. Stansly. 2012. Registered and experimental insecticides for control of Asian citrus psyllid and citrus leafminer on mature orange trees. Proc. Fla. State Hort. Soc. 125: (In press).

Qureshi, J. A., B. C. Kostyk and P. A. Stansly. 2011. Effectiveness of selective insecticides to control Asian citrus psyllid and citrus leafminer during leaf flushing. Proc. Fla. State Hort. Soc. 124: 85-89.

Qureshi, J. A. and P. A. Stansly. 2010. Dormant season foliar sprays of broad spectrum insecticides: An effective component of integrated management for *Diaphorina citri* (Hemiptera: Psyllidae) in citrus orchards. Crop Protection. 29: 860-866.