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Soil Applied Systemic Insecticides for Control of Asian citrus psyllid in Newly Planted Citrus Trees

Stansly, P. and Kostyk, B.

Orchard renewal is a special challenge where HLB is endemic. Young trees are especially susceptible to the disease and continuously attractive to the psyllid vector due to frequent flushing. Heavy reliance is placed on systemic insecticides to protect young trees. However, all presently labeled for citrus are neonicotinoids (IRAC Group 4a) making resistance likely and the long term viability of this strategy questionable. Rotation partners are needed to forestall selection for resistance. Therefore, we conducted a multiyear study to evaluate rotations of neonicotinoid insecticides rotated with cyantraniliprole a Group 28 insecticide in a block of 'Hamlin' orange on 'US802' rootstock planted in May 2010. Four treatment programs using two rates of Verimark 20 SC, rotated with Platinum 75 and Admire Pro in two different sequences were compared to an untreated check in an RCBD with 4 replicates. Adult psyllid populations were monitored monthly and immatures counted when natural flush was present. Incidence of HLB was assessed by PCR in Aug 2011, and Jan, May and Aug 2012. Psyllid populations on treated trees averaged 1.43 per tap compared to a range of 0 to 0.8 on untreated trees. Incidence of HLB reached 29% in Aug 2011 on untreated trees compared to 0-8.3% on treated trees. In May 2012 these numbers had increased to 67 % and 11-26% respectively. Diameter of scions was 33% larger on treated trees in Sep 2012. Although effective, the 90 day treatment regimen was not enough to protect trees from HLB and additional strategies are necessary.