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# Entomophagous insects associated to *Diaphorina citri* (Hemiptera: Psyllidae) in citrus orchards with different weed management systems in Papantla, Veracruz, Mexico

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Huanglongbing (HLB), one of the most destructive diseases of citrus worldwide, is threatening the survival of the citrus industry in Mexico. Diaphorina citri is the primary vector of HLB; thus, control of the vector it's vital for disease management. This study was carried out to evaluate the influence of different management systems on the population psyllid density and entomophagous insects associated in orange orchards (Citrus sinensis cv. Valencia) in Papantla, Veracruz, Mexico. Five orchards with different management strategies were selected: 1) Manual and mechanical weed control and insecticide application, 2) Manual and mechanical weed control, with insecticide application, and high planting density, 3) Manual and mechanical weed control, without insecticide, 4) Constant herbicide application, without insecticide, and 5) Manual weed control, mechanical soil removal, herbicide application, without insecticide. Each orchard was sampled, monthly. Psyllids adults were captured on yellow sticky traps. Eggs, nymphs and adults of D. citri, and natural enemies were collected on flush shoots. Results show that the diversity of weeds varied according to the handling and sampling date and was higher in orchards and dates where herbicide use was reduced or null. Cycloneda sanguinea, Azya sp., Scymnus sp., Curinus sp., and Brachiacantha sp. were the predators collected. There was synchrony among populations of D. citri, predators and abundance of flush shoots. The presence of the parasitoid Tamarixia radiata was minimal as a result of the low D. citri nymphs density. The results suggest that weeds diversity guarantee the survival of predators, because they supply alternative food resources.

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