

Modeling the yield damage caused by diseases on perennial crops: the case of citrus Huanglongbing

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Resumo

Citrus huanglongbing (HLB) is the most serious disease of citrus worldwide because once a tree is infected there is no cure and its yield is greatly compromised while the disease spreads all over the grove. Where HLB becomes endemic and there is no effective control, the disease progress in the orchard as well as the evolution of symptom severity throughout the tree canopy can be relatively fast, greatly reducing the economic life of affected orchards (1,11). In many countries where HLB is present it became a limiting factor for citrus production. Even knowing that, it has been difficult to convince citrus farmers and regulatory agencies to take part on global HLB management program, because HLB management based on elimination of diseased trees and reduction of vector population demands continuous efforts and is costly. Thus, the aim of this work were better characterize the importance of the disease and the impact of absence of any control on expected yield of affected orchards through a simple model that takes into accounting the disease incidence progress, disease severity progress and disease severity-fruit yield relationship according to the age of trees at first symptom onset.