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Huanglongbing Resistance and Tolerance in Citrus

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Huanglongbing (HLB) is severely impacting Florida citrus. Productivity declines in many HLB-affected genotypes, often with greatly thinned canopies. Fruit size and quality are often adversely affected as the disease advances. HLB was assessed in diverse cultivars in commercial groves with high HLB-incidence. ‘Temple’ had the lowest HLB symptoms and *Liberibacter* (Las) titer, while ‘Murcott’ and ‘Minneola’ had the highest. The USDA Ft. Pierce, FL farm is managed to reveal genotype responses to HLB. Some current cultivars and hybrid seedlings demonstrate resistance/tolerance, at least to strain(s) of Las present. *C. trifoliata* is the best documented citrus resistance source with Las titers suppressed even when *C. trifoliata* is grafted onto severely-infected rootstocks. Some cultivars and hybrids have abundant foliage symptoms, but full canopies and seemingly normal fruit set and size. In 3-years of data from a replicated trial of ‘Triumph’(T), ‘Jackson’(J), ‘Flame’(F), and ‘Marsh’(M), HLB symptoms were severe in all trees and *Liberibacter* titers were similar. However, F&M were almost completely defoliated in some years while T&J had full canopies. Cumulative fruit/tree was greater for T&J (255&220) than for F&M (29&66). T&J fruit met commercial standards and had normal size but F&M fruit were unacceptable with many small and misshapen. Evidence mounts that useful resistance/tolerance to HLB is present in cultivated citrus and this is a focus of the USDA citrus breeding program.