

Compositional differences between grapefruit juices from HLB infected and control trees

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Huanglongbing (HLB), or citrus greening is a incurable, fatal disease of citrus trees. It is caused by a bacteria, *Candidatus Liberibacter asiaticus* and transmitted by a psyllid, *Diaphorina citri* Kuwayama. The disease produces a number of symptoms in the tree, such as leaf yellowing, misshapen fruit, reduced productivity, and eventually death. Fruit from HLB infected trees is reported to be bitter, but little to nothing has been reported on fruit juice volatiles. All previous reports have dealt with oranges. This will be one of the first studies on HLB effects on grapefruit juice flavor. Grapefruit from a commercial grove in the East coast of Florida were collected throughout the harvesting season. In general juice from infected trees contained higher acids and lower sugars suggestive of less mature fruit compared to controls harvested at the same time. Naringin, the bitter flavanone glycoside was almost twice as high in juices harvested in January from infected trees compared to control juices. Vitamin C was also almost 20% higher in fruit from infected trees. Juice volatiles from HLB infected trees were appreciable different from that of controls again similar to less mature fruit. In general esters were lower and sesquiterpenes such as caryophyllene were appreciably higher in juices from infected trees.

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