5.5 Can Ca. Liberibacter asiaticus be transmitted through citrus seed?

Hartung J.S. 1, Halbert S.E. 2, Shatters R. 3

1USDA ARS Beltsville, MD, 2 Florida Department of Food and Consumer Services, Gainesville, FL, 3 USDA ARS Ft Pierce, FL

Seed was extracted from citrus fruit condemned by DPI due to HLB. The varieties tested include Murraya paniculata, rough and ‘Meyer’ lemon, sour orange, grapefruit and ‘Valencia’ sweet orange. Seed from symptomatic fruit was germinated and seedlings were maintained in a greenhouse for nearly 3 years. Seedlings have been observed regularly for symptoms of HLB and tested for Candidatus Liberibacter asiaticus (Las) by Q-PCR three times using a 16SRNA based procedure. In all 319 seedlings have been observed and tested. The large majority of seedlings have not shown any symptoms of disease, and none of the seedlings has tested positive for Las by a real-time PCR test targeting the 16S RNA genes of Las. However 9 of 89 sour orange seedlings show abnormal growth patterns which include stunting, defoliation and chlorosis. One of these sour orange seedlings in particular is severely stunted and shows symptoms similar to citrus yellow shoot. This seedling was positive for the presence of Ca Las when tested with a different set of primers that targeted the 16S region Las. The amplicon was sequenced from duplicate reactions and was found to have a 100% match to the 16S gene sequence from several strains of Las deposited in Genbank. Further testing of these seedlings is in progress.