Title:
Evidence that 'flying dragon' trifoliate orange delays HLB symptom expression for four sweet orange cultivars, Tahiti lime and Okitsu mandarin

Journal Issue:
Journal of Citrus Pathology, 1(1)

Author:
Stuchi, E. S., Embrapa Cassava & Tropical Fruits, Cruz das Almas, Brazil; Citrus Experimental Station, Bebedouro, Brazil
Reiff, E. T., Citrus Experimental Station, Bebedouro, Brazil
Sempionato, O. R., Citrus Experimental Station, Bebedouro, Brazil
Parolin, L. G., Citrus Experimental Station, Bebedouro, Brazil
Toledo, D. A., Citrus Experimental Station, Bebedouro, Brazil

Publication Date:
2014

Permalink:
https://escholarship.org/uc/item/3vt27053

Local Identifier:
iocv_journalcitruspathology_25280

Abstract:
Huanglongbing (HLB), caused by *Candidatus* Liberibacter asiaticus and vectored by *Diaphorina citri*, was first reported in 2004 in Brazil and is currently widespread in São Paulo State. Brazil is the world's largest sweet orange producer and has 49,000 ha cultivated with 'Tahiti' lime acid lime. Mandarin cultivation represents 5.5% of total citrus production in the country. In 2001, three experiments were planted in the Citrus Experimental Station (EECB), Bebedouro, Northern São Paulo State, where the first HLB symptomatic tree was detected in 2006. The initial objective was to evaluate the performance of 'Folha Murcha' sweet orange, 'Tahiti' acid lime and 'Okitsu' mandarin grafted on twelve rootstocks including Rangpur lime, Swingle citrumelo, Rubidoux and Flying Dragon (FD) trifoliate oranges. Cumulative HLB incidence (CI) was calculated in 2009. Folha Murcha and Tahiti lime trees on FD had lower CI values (6.7 and 10%) than trees on Rangpur lime (33.3 and 80%), Swingle citrumelo (46.7 and 66.7%) and Rubidoux (46.7 and 60%). CI was similar for Okitsu on FD, Carrizo citrange and HRS 827 (11.1%). In another field trial at EECB, Valencia, Hamlin and Natal were planted on FD in November 1994. Drip irrigation was installed in 2001. The first symptomatic plants in the area were detected in November 2008. In 2010, the 16 yr-old trees on FD have a lower CI (5.6%) than 20 yr-old sweet orange trees on Swingle citrumelo in an adjacent trial (CI = 35.4%). Our results indicated that FD rootstock could prolong the longevity of citrus orchards but more well-controlled studies of scion-rootstocks combinations with and without vector management are required.

10.18 P

Evidence that 'flying dragon' trifoliate orange delays HLB symptom expression for four sweet orange cultivars, Tahiti lime and Okitsu mandarin

Stuchi, E.S.[1,2], Reiff, E.T.[2], Sempionato, O.R.[2], Parolin, L.G.[2], and Toledo, D.A.[2]

[1]Embrapa Cassava & Tropical Fruits, Cruz das Almas, Brazil
[2]Citrus Experimental Station, Bebedouro, Brazil

Huanglongbing (HLB), caused by *Candidatus* Liberibacter asiaticus and vectored by *Diaphorina citri*, was first reported in 2004 in Brazil and is currently widespread in São Paulo State. Brazil is the world's largest sweet orange producer and has 49,000 ha cultivated with 'Tahiti' lime acid lime. Mandarin cultivation represents 5.5% of total citrus production in the country. In 2001, three experiments were planted in the Citrus Experimental Station (EECB), Bebedouro, Northern São Paulo State, where the first HLB symptomatic tree was detected in 2006. The initial objective was to evaluate the performance of 'Folha Murcha' sweet orange, 'Tahiti' acid lime and 'Okitsu' mandarin grafted on twelve rootstocks including Rangpur lime, Swingle citrumelo, Rubidoux and Flying Dragon (FD) trifoliate oranges. Cumulative HLB incidence (CI) was calculated in 2009. Folha Murcha and Tahiti lime trees on FD had lower CI values (6.7 and 10%) than trees on Rangpur lime (33.3 and 80%), Swingle citrumelo (46.7 and 66.7%) and Rubidoux (46.7 and 60%). CI was similar for Okitsu on FD, Carrizo citrange and HRS 827 (11.1%). In another field trial at EECB, Valencia, Hamlin and Natal were planted on FD in November 1994. Drip irrigation was installed in 2001. The first symptomatic plants in the area were detected in November 2008. In 2010, the 16 yr-old trees on FD have a lower CI (5.6%) than 20 yr-old sweet orange trees on Swingle citrumelo in an adjacent trial (CI = 35.4%). Our results indicated that FD rootstock could prolong the longevity of citrus orchards but more well-controlled studies of scion-rootstocks combinations with and without vector management are required.
Financial Support: FAPESP.