12.10 Flying Dragon Trifoliate Orange Rootstock for High Density Plantings in São Paulo, Brazil.

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High density citrus plantings (HDP) should be considered an important horticultural mitigation strategy for HLB. HDP provide higher productivity than conventional planting mainly during the early years but, as soon as they grow older, tree size becomes a problem (2,4). Tree size control not only facilitates cultural practices and harvest, but also allows the establishment of orchards with close spacing (1). Poncirus trifoliata var. monstrosa ‘Flying Dragon’ (FD) is considered a dwarfing rootstock with similar horticultural performance as the P. trifoliata (3). Aiming to evaluate the performance of HDP using FD as a rootstock, two experimental plots were installed in November 1994, in the Estação Experimental de Citricultura de Bebedouro, São Paulo State, Brazil. The soil was classified as Haplustox (38% of clay). The climate is Cwa according to Koeppen. In the first experiment, the scion was ‘Tahiti’ acid lime cv. IAC-5 (Citrus latifolia Tanaka). Trees were planted at four densities: 1) 2,500 trees.ha⁻¹ (4.0 x 1.0 m), 2) 1,666 trees.ha⁻¹ (4.0 x 1.5 m), 3) 1,250 trees.ha⁻¹ (4.0 x 2.0m); and 4) 1,000 trees.ha⁻¹ (4.0 x 2.5 m). The experimental design was randomized blocks, with 4 treatments, 5 replicates, with 4 trees per plot. In the second experiment, trees of Hamlin, Valencia and Natal sweet oranges grafted on FD were planted at 1,250 trees.ha⁻¹ (4.0 x 2.0m) in a randomized blocks, with 5 replications, and 8 trees per plot as treatments. The experiments received the standard cultural practices recommended in Southern Brazil, with no supplementary irrigation until 2001 and 2002 for the acid lime and the sweet oranges experiments, respectively. Results on tree size, fruit yield, and fruit quality are discussed for the period from 1998 to 2007 for the first experiment and from 2004 to 2008 for the second experiment.