

A Concise History of Citrus and Citrus Canker in Texas

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In the 1890s, the major citrus belt in Texas was along the Gulf Coast from Houston to Beaumont. A sign published in 1909 shows the area's intense interest in citrus production. Though two tree-killing freezes in 1894 and 1895 destroyed nearly every tree, the industry revived, only to be hit by another major freeze in 1899. The citrus industry came back again, but a 1916-17 freeze finally crippled the industry in this area. However, there is some citrus still grown in the Gulf Coast area in small orchards and as dooryard trees.



A sign published on the cover page of a 1909 booklet published from the Gulf Coast.

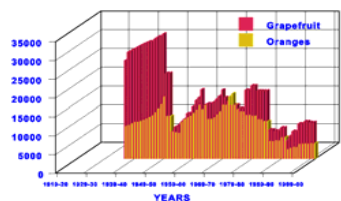


Dr. Richard A. Hensz

Two red grapefruit cultivars released from Texas, 1970 and 1984

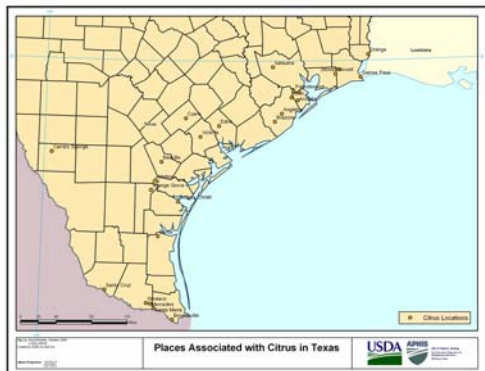
1951 Hudson grapefruit seed irradiated with thermal neutrons planted, 1959	1963-65 Buds from seedlings propagated on sour orange, 1960	1966 First fruit set	1970 Star Ruby cultivar released by Dr. Richard Hensz
1961 Seeds of Ruby Red planted	1963-65 Buds irradiated with thermal neutrons	1969-71 One tree with redder fruit was propagated and a kno from this tree was redder, it was further propagated	1984 Rio Red cultivar released by Dr. Richard Hensz

Hectares of citrus production in Texas



Texas red grapefruit license plate

Citrus production in the LRGV is mainly for the fresh fruit market, with emphasis on "Rio Red" grapefruit on sour orange rootstock. The first commercial grove in the LRGV was 7-acres of oranges, limes, and lemons near Brownsville, planted in 1891 by a French immigrant. The first grapefruit orchard on sour orange rootstock was planted in 1908.



Places associated with citrus in Texas



Fig. 1. Citrus canker symptom on native orange leaf, June, 1916.



Fig. 2. Citrus canker on orange fruit, Kingsville, TX, 1915.



Fig. 4. Citrus canker infected twigs, June 6, 1919.



Fig. 3. Louisiana sweet orange, Alvin, TX, October 1916.



Fig. 5. Photo Dr. J.J. Taubenhuis, former Plant Pathologist, Texas A&M University, College Station, TX who took all the pictures (Fig. 1-4).

There was rapid growth of the industry during and after the 1920s. Railroad connections in the 1920s and earlier years provided the Lower Rio Grande valley (LRGV) with the vital link to the northern towns, and it helped land sale to prospective buyers seeking to establish citrus orchards. The "Rio Red" grapefruit cultivar developed by Dr. Richard Hensz is the backbone of the Texas citrus industry. Both Dr. Hensz and the "Rio Red" grapefruit were recognized by the American Society for Horticultural Science in 1993 with the Outstanding Fruit Cultivar Award. That same year, the 73rd Texas Legislature designated the red grapefruit as the official Texas state fruit and later honored with a special license plate.

In 1999, surveys were conducted in 10 counties in the Gulf Coast and the LRGV areas for canker and citrus leafminer (CLM), *Phyllonistis citrella*, damage. No canker lesion was detected in any of the more than 1,328 samples. Active CLM infestations and severe foliar feeding injury were apparent at most survey locations. In 2000, another survey for citrus canker was conducted in Cameron County in the LRGV. A total of 822 samples were collected and assayed, 790 had CLM damage. Only one sample, a grapefruit leaf, showed suspicious symptoms with brown circular raised lesions on the upper surface and surrounded by a clear yellow chlorotic halo; however, no water-soaked margin and/or sunken center of citrus canker lesions were observed. Bacterial tests using a selective medium failed to confirm presence of canker. In 2003, a survey of several thousand wild trifoliolate seedlings in 81 locations showed no evidence of the presence of citrus canker.



Map above indicates the GIS locations that were inspected for canker, 2003.



Citrus leafminer, *Phyllonistis citrella* (left).



Trifoliolate orange that grows wild east Texas (right).

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