

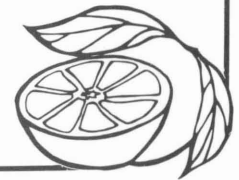
12-13-88  
JWS



# Texas Agricultural Extension Service

## Texas Citrus The Texas Citrus Industry

Julian W. Sauls\*



Citrus is native to the Orient, having been known in China more than 4,000 years ago. Early explorers carried citrus to the Mediterranean area of Europe. From there it was carried to the West Indies by early settlers. Citrus subsequently spread across the Americas with early explorers, missionaries and settlers.

Orchards were established along the Texas Gulf Coast in the 1880s. The earliest record of citrus in the Lower Rio Grande Valley was seedling orange trees planted by Don Macedonio Vela at the Laguna Seca Ranch in 1882. Orchards planted on trifoliate orange rootstock over the next quarter-century failed because the rootstock does not tolerate alkaline soils or saline conditions of soil and water. Charles Volz successfully established an orange orchard on sour orange rootstock in 1908.

Limited acreage of Foster (seedy, red) and Thompson (seedless, pink) grapefruit were established in the Valley in the late 1920s and into the 1930s. Ruby Red grapefruit was patented in 1934 as a bud sport discovered in 1929 on a Thompson tree imported from Florida in 1926. Redblush originated as a rebudded sour orange sprout, with the bud taken from a Thompson tree from the same lot of trees which gave rise to the Ruby Red.

Thus, the Texas citrus industry began, leading to a peak of more than 100,000 acres in the 1940s. Moreover, Texas' reputation for quality red grapefruit production was established by the varieties which originated within the Valley.

Changes and improvements in the Texas citrus industry have occurred primarily in response to natural disasters, particularly the freezes of the late 1940s, 1951, 1962 and 1983. From the earliest plantings of seedy oranges and white, seedy grapefruit, today's orchards are primarily seedless

oranges and red to super-red seedless grapefruit. Other improvements include closer tree spacings, land leveling, low-volume irrigation, mechanical grove care equipment, more extensive use of herbicides and processing plants.

The Texas citrus industry is still rebuilding from the 1983 freeze which destroyed 70 percent of that season's crop and reduced acreage from 69,200 acres to about 22,000 acres. No citrus fruit was produced during the 1984-85 season and only a modest amount in the 1985-86 season. Rebuilding is expected to last into the 1990s before new plantings level off and fruit production returns to near pre-freeze levels.

The Texas citrus industry is almost totally located in the Lower Rio Grande Valley, with about 80 percent of the acreage in Hidalgo County, 15 percent in Cameron County and 5 percent in Willacy County. Although hurricanes can cause considerable tree and crop damage, the major limiting factor in Texas citrus production is the risk of severe freeze damage. The economic costs of rehabilitating and/or replanting citrus orchards following a freeze are accentuated by the costs of recapturing markets lost to competing areas during freeze recovery.

The probability of a freeze in Texas is about the same as in Florida, but freezes usually are more damaging to the Texas citrus industry because of concentration in a relatively small geographic area. Thus, a severe freeze in the Valley affects all orchards. By contrast, Florida and California acreage is dispersed over such a large geographic area that freezes rarely affect more than a portion of total acreage.

Although land prices in the Valley generally are lower than in competing citrus areas, Texas citrus production costs tend to be slightly higher than those in Florida. The major difference can be

\* Extension horticulturist, The Texas A&M University System.



traced to irrigation costs, i.e., Texas citrus irrigation is essential and labor intensive. Florida citrus areas normally receive more than twice as much rainfall as the Valley, thereby reducing irrigation needs. Also, irrigation systems in Florida require very little labor. Lower average orchard sizes in Texas preclude some economies afforded by larger operations.

Average Texas citrus production is somewhat lower than in Florida, even for the same rootstock-scion combinations, although Valley soils are considerably more fertile. Lower Texas production may result from a combination of soil and water salinity; the effects of generally hot, dry winds during flowering on initial fruit set; and smaller overall tree sizes because of higher tree densities and periodic freeze damage. However, some Texas orchards routinely have yielded double the average, so orchard management expertise also is a critical factor.

The ownership of Texas citrus is difficult to determine with certainty. However, pre-freeze efforts indicated that absentee investors owned about one-half of the total acreage and owner-operators controlled about 25 percent, with the remainder being owned by local owner-investors. The primary distinction between the latter two categories is that the owner-operator makes all management decisions and applies the necessary inputs and equipment, while the local owner-investor may assume all or part of the management decisions but will contract production operations. Much of the absentee-owned acreage and some of the local owner-investor acreage is under contract to orchard care companies. Some absentee-owned acreage is managed by a permanent staff using company-owned equipment.

Primary market outlets for Texas citrus traditionally have been commercial shipments of fresh fruit, including fund raising, and processed juice products. A lesser but highly significant volume of fresh production is marketed in gift fruit packs and at local roadside stands. The market share of fund raising and gift fruit sales appears to have increased steadily over the last few production seasons.

Grapefruit and oranges dominate the Texas citrus industry, as less than 300 acres of other citrus are reported. However, there is a good potential market for small acreages of so-called speciality citrus, particularly some of the tangerines, tangelos, lemons, limes and other types. Such speciality citrus fruits should generate high returns in both gift fruit sales and local roadside markets, even though production and marketing risks may be somewhat higher than for traditional grapefruit and orange orchards.

The Texas citrus industry has a solid infrastructure that has survived the economic hardships created by the 1983 freeze. In addition to packers, shippers, processors, cooperatives, grove care companies, orchard supply and chemical companies, the citrus industry is served by the Texas Valley Citrus Committee, TexaSweet Citrus Advertising, Texas Citrus and Vegetable Growers and Shippers Association, Texas Citrus Mutual, Texas Department of Agriculture, U.S. Department of Agriculture, Texas Agricultural Statistics Service and the Rio Grande Valley Grove Managers Association. Moreover, citrus research and Extension programs are conducted by the U.S. Department of Agriculture, the Texas A&I University Citrus Center, the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service—all of which have personnel and facilities in the Lower Rio Grande Valley.

The total value of the citrus industry to the Texas economy normally is more than \$200 million. The total crop value to the grower during the five complete seasons prior to the 1983 freeze averaged more than \$51 million annually.

The present outlook for the Texas citrus industry is extremely bright as rehabilitating orchards return to normal production and new plantings continue. Although the industry does not anticipate a return to its former size of almost 70,000 acres, the present 30,400 acres of citrus are not sufficient to meet the existing demand for premium quality Texas grapefruit and Texas sweet oranges.

*Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.*

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Zerle L. Carpenter, Director, Texas Agricultural Extension Service, The Texas A&M University System.

1.5M—9-88, New

HORT 2-2