

The 'Stuart' Pecan

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The most popular pecan cultivar (variety) in the world is 'Stuart,' currently occupying about 27 percent of improved orchard space (6). The U.S. is by far the largest producer of pecans worldwide, of this most important native North American nut species.

'Stuart' presumably originated from a nut brought from Mobile, Alabama by John R. Lassabe and planted in a garden in Pascagoula, Mississippi about 1874 (4). The tree quickly acquired local popularity due to its productiveness, beauty, and nut quality compared to contemporary trees. From 1889-1892 it annually produced about 140 pounds of nuts, and in 1892 it yielded 350 pounds which were sold by Charles M. Cruzat for \$1 per pound, who had the land leased where the 'Stuart' tree was growing.

Mr. A. G. Delmas of Scranton, Mississippi first cut scions of 'Stuart' in 1886 and got one of 60 grafts to take (4). In 1890 nurseryman John Keller, associated with Col. W. R. Stuart of Ocean Springs, Mississippi, secured scions from the tree and propagated nursery trees. The first 'Stuart' trees were offered for sale about 1892. The original name for this cultivar was 'Castanera,' but the clone was popularized under the name 'Stuart' suggested by Prof. H. E. Van Deman, then Pomologist of the U.S. Department of Agriculture. Van Deman was unaware that the clone had already been named. 'Stuart' was widely advertised and sold throughout the South.

In October 1893, the original tree in Captain Castanera's garden was blown down by a storm. The tree sprouted and again bore nuts in 1902, but an-

other storm blew the tree down in 1906 and it died.

Whether 'Schley' and thus other more recently developed cultivars are descendants of this clone is currently receiving some debate. 'Schley' is reported to be a seedling of 'Stuart' (5), but if 'Stuart' was planted in 1874 and 'Schley' in 1881, 'Stuart' would have had to produce nuts in its seventh year. This is possible, but is discounted (1) since 'Stuart' is so lacking in precocity. Perhaps 'Stuart' was planted before 1874 since the literature says it was planted "about 1874."

Proceeding forward, 'Mahan' is possibly a 'Schley' seedling. If 'Stuart' is a parent of 'Schley' and 'Schley' a parent of 'Mahan,' then 'Stuart' is a major contributor of genes for our modern USDA breeding program. It should also be noted that the 'Mahan'- 'Schley' lineage is supported by recent isozyme inheritance research (2). More recent attempts to use 'Stuart' as a direct parent to produce modern cultivars has been very disappointing, however.

'Stuart' trees have a strong upright type of growth, with major limbs connected to the trunk quite low and a distinct absence of a main central leader. Limb connections are very strong, and if limb breakage is induced by storms, etc., it usually occurs higher in the tree.

'Stuart' evidently has a high bud chilling requirement since bud break is delayed somewhat after mild winters in southern areas (3). As far as blooming habit, it is strongly protogynous, and a pollinator is needed for all orchards.

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Generally, 'Stuart' is very low in precocity, but yields well and fairly regularly after tree maturity (ten years or so). It has a nut thinning mechanism which prevents overbearing to some extent, and contributes to uniformity of yield from year to year. An average yield of 1,200-1,500 pounds per acre in well managed orchards is common.

'Stuart' nuts mature mid-season which is about Oct. 15 at Brownwood and about a week earlier in Georgia. The nut is oblong, slightly compressed (flattened), and has blunt apex and rounded base (7). Color is brownish-gray with somewhat irregular purplish black streaks from the apex part way down.

The nut is of good size (45-55 per pound) compared to other cultivars but has a thick shell and low percent kernel (45-50). Both dorsal and ventral kernel grooves are deep. The dorsal grooves are also wide, usually allowing adequate separation from packing material developed in these grooves. The ventral groove is narrow and more likely to retain a small portion of packing material during shelling. Good 'Stuarts' can shell nicely, producing a high percentage of intact halves.

'Stuart' has moderately high pecan scab resistance which is of considerable economic value in the more humid

areas where it is grown. It is somewhat susceptible to downy spot and vein spot. Although insect resistance is not generally an economic factor in evaluating pecan cultivars, 'Stuart' is quite susceptible to stem phylloxera and shuckworm.

This grand old cultivar remains more common in pecan orchards today than any other, and is still recommended for planting in nine states. Due to the almost permanent production potential of pecan trees, 'Stuart' will surely be a popular cultivar for years to come.

Literature Cited

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NEW PUBLICATIONS

Arthropod and Disease Resistance Selections of Apple

The following 2 publications have been published by the Department of Entomology of the Agricultural Experiment Station of Purdue University, West Lafayette, IN: Station Bulletin No 537, "Arthropod and Disease Resistance in Selections of *Malus* sp. Originating from the Cooperative Apple Breeding Program" by H. F. Goonewardene and E. B. Williams.

Station Bulletin No. 540, "Arthropod and Disease Resistance in Progenies of *Malus* From the USDA (ARS)—Purdue Program" by H. F. Goonewardene, P. H. Howard, and J. Triscari. Both of these publications list selections with resistance to one or more of the important apple insect and disease pests. They will be very useful to apple breeders and others interested in developing pest resistant apples.