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'San Saba' Pecan

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Possibly the most famous pecan (*Carya illinoinensis* (Wangenh.) K. Koch) tree is the Mother 'San Saba' discovered by Mr. E. E. Risien in 1882. Today, the tree is still healthy and growing on a bank of the San Saba River in San Saba County, Central Texas (Fig. 1).

Mr. Edmond E. Risien (1853-1940) (Fig. 2) was born in England, and came to the small town of San Saba, TX. in 1874. It has been said that Risien was a cabinet maker by profession, native of San Saba by accident, and a horticulturist by instinct (personal communication with Elsie Millican, 1987). In the 1870's wagons of buffalo meat and pecans were commonly sold in San Saba. Risien became interested in good pecans, and offered a $5 prize for the best "eating pecan" sample. This was the common term for the highest quality pecans that people kept for themselves. When a tree was found that produced the highest quality pecans, they were usually kept in a bag by themselves while the common quality pecans were loaded into the wagon beds in bulk.

The winning entry was very impressive, and Risien asked to see the tree that produced these nuts. When the man took him to the tree, Risien was horrified to find only one limb remaining on the tree. The prize winner had left that limb to stand on to cut the rest of the tree down to get the pecans. Risien was determined to own the tree. He checked and found that a Mr. Cunningham in Alabama owned the 314 acres upon which the tree stood. The land was ideal for pecan growing and easily fenced since it was bounded on one side by the Colorado River and by the San Saba River on another side. Only one fence had to be built between the two rivers to fence the place. Risien bought the land upon which the tree was growing and named this ortet tree the Mother 'San Saba'. He released this cultivar about 1893.

Risien used the 'San Saba' tree to breed pecans for many years. In 1895 he planted open-pollinated nuts from this tree to form his orchard. From these 1,000 seedlings growing on 40 acres, he selected the 'San Saba Improved', 'Sovereign' (more commonly known as 'Texas Prolific'), 'Onliwon' and 'Texas 60'. 'Western Schley' (commonly called 'Western' today) and 'Jersey' were once thought to be 'San Saba' progenies (1), but this cannot be true based upon isozyme genotypes for malate dehydrogenase and leucine aminopeptidase (2). Risien does not give the parentage of 'Western Schley' in his catalog (4). He does state that "In this pecan we have a facsimile of the Eastern Schley, described in all nursery catalogues, and which we regard as the best of their collection." He does give the parentage of all the other cultivars in this catalog except 'Squirrel's Delight'. They are described as seedlings of the 'San Saba' or from special crosses. He concludes this section of the catalog by stating that he did originate 'Western Schley': "We are the originators of all the trees here offered, and this is why we are able to grow trees from fruit-bearing cions taken from the mother trees." Evidently, Risien thought getting the propagation wood from a bearing tree was important.

Sparks (5) cites the outdated information that 'Western Schley' is a seedling of 'San Saba'. As mentioned above, this has been disproved by isozyme genotypes. These same isozyme genotypes show that 'Schley' could be a parent of 'Western Schley'. We know that Risien was familiar with the 'Schley' and surely had it in

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Figure 1. Mother 'San Saba' pecan tree still healthy and growing in Central Texas.

his orchard. The senior author identified a 'Schley' tree near the Mother 'San Saba' tree in the early 1980's. This was a large tree, but its age is unknown. Also, the nut and tree characteristics of both cultivars have always been considered quite similar (8). Conversely, the authors have always seen less similarity between 'San Saba' and 'Western Schley' than would be expected if the former was the parent of the latter. This is especially true when considering nut and kernel characteristics. Considering all this evidence, we would guess that 'Schley' is indeed a parent of 'Western Schley'. We would further guess that 'Schley' is an inadvertent pollen parent of 'Western Schley' since Risien had no appreciation for eastern cultivars as parents of new cultivars (4).

Risien also started making controlled crosses using 'San Saba' in 1904 (1). He would travel miles to get catkins from other trees to fertilize nutlets on this favorite tree. From these crosses, 'Venus' and possibly other cultivars were produced.

The 'San Saba' tree is precocious, prolific and a regular bearer. It is susceptible to scab [*Cladosporium caryigenum* (Ell. et Lang.) Gottwald]. Blooming habit is protandrous. The nut is small (227 nuts/kg.), but otherwise very high in quality. This small size was the main objection to this cultivar, and Risien immediately started breeding for larger pecans. The nut is about 64 percent kernel, which was unequaled at the time of its discovery in 1882. 'San Saba' nuts had to be specially packed in barrels or boxes to prevent nuts being crushed during shipment. The shell is thin and brittle, but dense. The nuts shell easily, and the packing material inside the nut separated readily from the plump high-quality kernels. Nut shape is oval to orbicular, with obtuse apex and obtuse to rounded base; and is rounded in cross section. Kernel color is golden (Class 3) to light brown (Class 4) (7). Kernels have wide dorsal grooves and prominent secondary dorsal grooves.

Today the 'San Saba' is not commonly propagated. The senior author obtained scions directly from the original tree in 1983 and propagated them in the National Clonal Germplasm Repository at Brownwood. Today this valuable clone is maintained at two repository locations (Brownwood and College Station, Texas). Therefore, this historic clone is now safe, and will be preserved for future genetic use. This is an excellent example of the valuable work this repository accomplishes. Many other old pecan clones have been added to the collection, including other hickories species and clones.

Figure 2. E. E. Risien, pioneer pecan breeder.

Eventually, the original grand old tree will be lost to flood, lightning, disease or just old age. In any event, the clone will always be available for vegetative propagation from the repository.

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'Edda' Plum

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'Edda' is a European plum variety with increasing popularity in the Norwegian market. Low productivity was experienced in the first years after introduction, but when planting adequate pollinizers, this problem was overcome. The tree is not easy to handle, as compared e.g. to 'Opal,' but fruit thinning work is much less, and the farmers get good prices for 'Edda' in the market.

Origin

'Edda' was bred and introduced from the Norwegian Crop Research Institute, Ullensvang Research Centre, division Njøs, in Western Norway. The release ended a breeding program initiated by Erling Kvaale in 1934. 'Edda' was selected from a cross between 'Czar' x 'Prune Peche' made by E. Kvaale in 1953. After testing in the 1960's, the variety was released by Per J. Husabø in 1970, in connection with the 50th anniversary of the experiment station at Njøs. Heat treatment to obtain virus free stock was carried out at Hornum in Danemark in 1976/77, and propagation material for Norwegian Stock Plantings was introduced in the spring 1979.

Vegetative Plant Data

'Edda' is compatible to a wide range of rootstocks, as no problems have been observed to St. Julien A, Myrobalan, Pixy, Mariana or Eruni. The growth is upright, and the trees tend to get naked branches by increasing age. The shoots are brownish-yellow, smooth, somewhat ribbed against the top, with light lenticelles, especially by the basis of the shoot, which is typical for the variety. Similar the foliage is vigorous and dark green (1). Experiences from Eastern Norway, where the winter climate is harder, has shown that the tree is not very hardy.

Generative Plant Data

'Edda' is self-sterile, but flowers by 'Opal' and 'Victoria,' and both these varieties are good pollinators. 'Rivers Early Prolific' and 'Reine Claude d'Oullins' are also good pollinators, while 'Mallard' seems to be poorer (3).

Ripening time equals 'Opal,' or a few days earlier (2), which is mid-August in Norway. The fruit is medium large. In a field trial from 1983-88 at Njøs (2), mean fruit weight of 'Edda' was 42 gram, as

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