

**Plant  
Breeding  
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# **PLANT BREEDING REVIEWS**

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**1**

# **Antoine: Slave, Creole Gardener, and Expert Grafter of Pecan Trees**

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## ABSTRACT

Scientific advancements in any field are often the result of hard work by well-trained scientists whose productive lives and academic careers are well documented. Occasionally, advancements are made in a given field by those without the advantage of formal education or training, and about whom there is little documentation, but whose intellect and skill contribute greatly to the advancement of that field. In the mid-1800s, a man known only as Antoine grafted 126 pecan (*Carya illinoensis*) trees at Oak Alley Plantation in St. James Parish, Louisiana. Originally, a sugarcane plantation, dating back to 1836, Oak Alley is famously recognized by its plantation house adorned with large Tuscan columns and lying at the end of a double row of 28 large live oak trees. There is very little known of Antoine, in part because he was a slave whose rights were largely curtailed. However, his successful grafting of 126 pecan trees laid the foundation for the development of the first recognized pecan cultivar, 'Centennial'. Antoine's techniques would be used as the basis for the consistency that led to the development of the pecan industry, not only in the United States, but also throughout the world. That he was unheralded during his time is largely due to the horrors and repressive nature of American slavery. It is long past time that his accomplishments, and the contributions of so many unrecognized horticulturists to the betterment of our crops, were recognized.

**Keywords:** Oak Alley; pecan; slavery; slave; *Carya illinoensis*

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  - II. [WORK AND RECOGNITION OF 'CENTENNIAL' PECAN](#)
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## I. BACKGROUND

Prior to the late 1800s, though pecans (*Carya illinoensis*) had been utilized by Native Americans for centuries and were later a popular trade item among the early European settlers of North America, pecans were not viewed as having serious commercial potential due to their lack of uniformity (Wells [2017](#)). In 1794, French explorer and botanist Andre Michaux first encountered the pecan near Louisville, Kentucky. Twenty-five years later, he would encounter stands of wild pecan trees being cultivated by Native Americans near Kaskaskia, Illinois. He wrote of the pecan as being “more delicately” flavored than the walnuts of Europe. He was concerned with the lack of precocity – fruit production at an early age – in the pecan and suggested the pecan could be improved by grafting onto wild black walnut (*Juglans nigra*) (Bryant [2004](#)).

However, there are no records of successful attempts at the vegetative propagation of pecan trees until 1822 when Dr. Abner Landrum budded pecan onto a wild hickory (*Carya* spp.) rootstock in Edgefield, South Carolina. Landrum himself was a fascinating man in his own right. A physician, ceramic artist, amateur horticulturist, and publisher,



Landrum produced the first alkaline-glazed stoneware pottery in the New World, combining the techniques of Europe and Asia and creating a viable alternative to lead-glazed pottery. This was significant because the lead glaze used on most earthenware pottery produced in the south during the 1700s and early 1800s was responsible for a rash of lead poisoning cases throughout the region during that same period. In addition, acids from the vinegar used in preserving seemed to accelerate the process. Landrum's pottery would spread throughout the entire southern tier of states to Texas during the late 1800s, saving countless agonizing deaths in the region (Koverman [2009](#)).

Landrum had previously attempted to bud both pecan and walnut to hickory rootstock. In an article published in *American Farmer* magazine, Landrum wrote "the pecan did not take so well as the walnut but my trials were made rather late in the season." The following summer, he had better success, stating "I have this summer budded some dozens of pecan on the common hickory nut, without a single failure as yet; and some of them are growing finely" (Landrum [1822](#)). Despite his success, Landrum's attempts at budding pecan failed to lead to any further development in the form of nursery production, orchard establishment, or cultivar development. As a result, the pecan was still considered too unpredictable and nonuniform in its production to be of any commercial value beyond those nuts gathered from the wild and sold or traded.

When sugarcane planter, Jacques Telesphore Roman, the owner of Oak Alley Plantation, died in 1848 of tuberculosis, an inventory of his estate was conducted. This inventory provides the only written record of a man named Antoine, who, in the distasteful context of that time, was considered a part of the inventory of Roman's estate. Roman had acquired the 9000 acre sugarcane plantation in 1836 and promptly built the main house between 1837 and 1839. The

plantation later acquired the name Oak Alley, referencing the 28 massive live oak trees lining the entrance to the main house. A hospital, an overseer's house, a 100-stall horse stable, a sugarcane house, and sawmill were also built. Aside from these outbuildings and the opulence of the main house, the plantation was home to 24 simple, wood-frame cabins, which housed the 113 people enslaved by Roman to serve him and his family in the home and in the fields. Antoine was listed among the 93 field slaves at Oak Alley. The 1848 ledger records Antoine's age at 38 years, which suggests he was born in 1810. The notation beside his name states that Antoine was "a Creole Negro gardener and expert grafter of pecan trees." According to Roman's ledger, this man's life was valued at \$1000 (Anonymous [2010](#)) ([Figure 1.1](#)).

## **II. WORK AND RECOGNITION OF 'CENTENNIAL' PECAN**

In the early 1840s, a pecan tree growing on the Nita Plantation on the east bank of the Mississippi River, just around a bend and upstream from Oak Alley Plantation, consistently produced large, thin-shelled pecans that were favored by a local dentist, Dr. A.C. Colomb, who attempted to graft cuttings from the tree onto other pecan trees. Failing in this endeavor, Colomb collected graftwood cuttings from the tree and gave them to J.T. Roman so that Roman's gardener, Antoine, could graft the wood onto trees across the river at Oak Alley Plantation (Flack [1970](#)).

Antoine began grafting Colomb's cuttings onto trees near the main house of Oak Alley. Initially, he was successful in grafting 16 trees. Although the exact grafting method used by Antoine is unknown (most likely some form of bark graft), he would continue this work until 110 pecan trees were successfully grafted in a large pasture near the river

on Oak Alley Plantation. All 126 trees were bearing pecans by the end of the Civil War. Following the war, Oak Alley went through a succession of owners, who cut down most of these trees to plant sugarcane. By 1902, only two of the original trees grafted by Antoine were still alive ([Flack 1970](#)).



**Fig. 1.1.** Main house, Oak Alley Plantation.

*Source:* Photograph courtesy of Oak Alley Plantation.

In 1876, the famed Centennial Exhibition was held in Philadelphia. This was the first official World's Fair held in the United States, and such novel items as Alexander Graham Bell's telephone, the Remington typewriter, Heinz ketchup, and the Wallace-Farmer electric dynamo, a precursor to electric lighting, were displayed alongside the

torch of the as-yet-to-be completed Statue of Liberty. One of Oak Alley's prior owners, Hubert Bonzano, happened to serve on the Centennial Exposition's board of managers. Bonzano, a proud resident of Louisiana, began to encourage the state to submit everything of interest that it had to offer for display at the exhibition (Kilcer, personal communication). Bonzano's boosterism resulted in the submission of a few pecans gathered from the remaining pecan trees grafted by Antoine. Professor William Brewer, chair of Agriculture at Yale's Sheffield Scientific School, awarded Bonzano a certificate for the pecans, commending their "remarkably large size, tenderness of shell and very specific excellence" (Taylor [1905](#)). While this was a triumph for Bonzano and generated recognition of the pecan, it is a shame that the man known only as Antoine received no recognition for his invaluable contribution.



**[Fig. 1.2.](#)** 'Centennial' pecan, the first recognized improved pecan cultivar.

*Source:* USDA Yearbook of Agriculture ([1904](#)).

Antoine's grafted trees were given the name 'Centennial' in honor of the exhibition and the 100th anniversary of the United States, becoming the first recognized pecan cultivar to be named. The tree was first catalogued under this name in 1885 by Richard Frotscher and William Nelson and was

sold through their nursery in New Orleans (Flack [1970](#)) ([Figures 1.2](#) and [1.3](#)).

The original “mother” ‘Centennial’ tree, from which the graftwood used by Antoine was taken in the 1840s, was destroyed on March 14, 1890. The Nita Crevasse, a 15 ft deep gouge into the earth formed when a defective rice flume was used for routing water from the river to the rice fields, caused a breach in the levee. As the water flooded in, the tree was swept away with the earth beneath it (Taylor [1905](#)) ([Figure 1.4](#)).

### **III. SIGNIFICANCE**

While ‘Centennial’ is no longer a commercially planted cultivar, it remains significant for the advancements made through its development as the first recognized pecan cultivar. Antoine’s successful grafting techniques brought the potential for uniformity to the industry. Pecan growers and nurserymen were shown the possibilities that exist in selecting and asexually propagating the best seedling trees.



**Fig. 1.3.** 'Centennial' pecan nuts.

*Source:* Photograph by USDA ARS-Pecan Breeding and Genetics.