

Starch Making: A Pioneer Florida Industry

By MRS. HENRY J. BURKHARDT

Today when Chambers of Commerce are looking about for industries to attract to Florida it is interesting to recall that long before Miami and the Palm Beaches became renowned as playgrounds the section was widely known for its manufacturing. Arrowroot was the product made from a native plant known as coontie.

In 1870 as many as eight persons were known to be engaged commercially in the manufacture of starch from coontie. The industry was spread over the southeastern part of the state wherever the coontie plant thrived, but activity centered in the section now known as Greater Miami, where the coontie flourished underneath the pines and in flat open fields.

Today coontie is a tradition and the eight manufacturers of 1870 are but names in a record, interesting as proving the extent to which the product was known.

An article in the 60th anniversary edition of the *Palm Beach Sun* of March 1947 quotes from the United States census of 1870 in which eight men listed their occupation as manufacturers of arrowroot. The *Sun* reports that George Lewis and William A. Johnson were Floridians, but that Thomas Brissett came from Connecticut, William Wagner from Baden and Nicholas Akis from Darmstadt, Germany, Francis L. Hammon was from Ireland, and Michael and Georges Chairs were from France.

The Hannas mention in *Florida's Golden Sands* that there was a George Lewis and a William Johnson who engaged in blockade running for The Confederacy during the War Between the States, their headquarters being Miami. Did they stay on to become the arrowroot manufacturers mentioned in the 1870 census? Or were they already engaged in that work, interrupting it to aid The Confederacy and themselves by indulging in a little blockade running on the side?

Did the other six from faraway places come because they had heard of the arrowroot business? Perhaps we shall never know, but we do know from other records that there was a thriving business in this section as early as 1835. That is the date given in the Report of the Secretary of the Treasury, on the State of Finances, *Senate Document 2*, 29th Congress, 1st session, p. 664.

This document quotes a statement made by Senator Stephen R. Mallory in 1845, who said: "The section of the country on the coast south of Jupiter inlet, and east of Cape Sable, produces a native arrowroot, commonly called 'coontee,' which is manufactured by the settlers to some extent, not to exceed 20,000 lbs., per annum. This commanded in northern markets in 1835-40, 8 cents per lb.; and is now, 1845, in the same markets, worth 5 cents."

From questioning the settlers of the Lake Worth region it seems to be definitely established that while there was sufficient quantity of the plant to provide starch for home use, it was never manufactured commercially in what is now Palm Beach County. Its growth was most prolific from Hallandale on the north through the Cutler section at the south.

From a Florida Supreme Court record we learn that George W. Ferguson was engaged in manufacturing and shipping arrowroot to Key West from Miami in 1845. His agent was Joseph Y. Porter, a merchant and broker, who agreed to ship the product to New Orleans applying the sale against Mr. Ferguson's purchases from him, and remitting any remaining cash to Mr. Ferguson, provided that Ferguson would buy his goods from Porter.

This is brought out in a suit at law by Ferguson against Mary Ann Porter, executrix of her husband's estate. The original judgement in the lower court was found for the appellee, but the Supreme Court reversed the decision of the lower court allowing Mr. Ferguson his claim of \$140 for the 1,725 pounds of arrowroot lost at sea.

Florida Reports, Vol. 3, p. 27, shows the case as having come before the Supreme Court in January 1850, and that it was based on an alleged "breach of duty by the said Joseph Y. Porter as bailee and factor of the plaintiff in this suit."

Testimony reviewed by the higher court showed that the original agreement had been entered into in January 1846 and that several times Mr. Ferguson had made such shipments from Miami (the name given in the court record) and that Mr. Porter had carried out the agreement in full, until, convinced that he could get higher prices in Charleston, in October 1846, he sent a shipment of arrowroot, uninsured, in the mail boat to that city, and that the shipment was lost at sea in the hurricane of that month.

One of the witnesses, unidentified in the *Florida Reports* examined, called at Mr. Porter's store to inquire about the arrowroot and was told that it had been shipped to Charleston. A few days later word having come of the loss of the boat, the witness stated he had called again on Mr. Porter at which time Mr. Porter said "it would be the plaintiff's loss, that he had shipped it at

the plaintiff's risk." Porter is said to have admitted that he had shipped it contrary to orders but that there had been no opportunity to ship it to New Orleans.

Reversal was based on the reasoning that "A bailee or factor is bound to follow such instructions as are given him by his principal, unless such instructions are inconsistent with the special agreement between them; . . . and is liable for any injury resulting from a departure from such instructions, and this liability is incurred, although the services undertaken are gratuitous."

Just how many years before 1845 Mr. Ferguson had been in the arrowroot business we do not yet know.

We do know from Senator Mallory's statement that the industry was in existence in 1835. We know too that Dade county's representative to the Constitutional Convention held at St. Joseph, December 3, 1838 may have had some connection with the industry.

That representative was Richard Fitzpatrick, a Miamian since 1830. Fitzpatrick had acquired the holdings of the Egan family, whose father had received a grant in 1808 from the Spanish government. Egan's children had added to their holdings in 1827 under grants approved by Congress in that year. These holdings were cultivated for that was one of the conditions under which they were obtained.

Old records mention the large holdings of Fitzpatrick along both sides of the Miami river; his many slaves brought from Columbia, S. C.; state that he raised cotton and planted the original lime groves in the Miami area. One history states that the United States Court of Claims awarded him \$12,000 in 1877 for his lime groves which had been destroyed by the army during the Seminole wars. One can't help but wonder if Fitzpatrick was not one of those shipping arrowroot to "northern markets at 8 cents per pound."

Miami was made the county seat of Dade County in 1844 and by a bill approved December 21, 1846, the Miami river was declared "a navigable stream in its whole extent." A postoffice existed at Miami as early as October 1850, according to a register of all officers and agents in the service of the United States on 30th, September, 1851.

I am convinced that these acts were prompted at least in part by the manufacturing going on. It seems certain to me that the *Acts of Florida* for 1850, ch. 334 prove the existence of the arrowroot business, for that year the legislature appropriated \$1,000 for "a proper wagon road" from Indian River to Miami, because Miami was "reported to possess many advantages resulting from an abundant and valuable spontaneous production." Coontie

is not mentioned. But what could that "abundant and valuable spontaneous production" be but coontie?

Within our own times we know that to later settlers coontie served like the Manna of old, which fed the Children of Israel in the Wilderness. It had done the same for the Indians before them, from whom the white settler learned the first steps of its purification.

What matter if it did not "lay like hoarfrost on the ground?" When the root was processed the resulting starch was snowy white and it provided food for the family, a fertilizer for crops, and a by-product which could be fed to the pigs; it was considered a cure for burns, and most important of all, it was a money crop. It also had a social value. School children of the 1900's and probably many before them threaded the coral-red seeds into streamers for Christmas trees.

Webster's dictionary states that the plant is "any one of several plants of the genus *Zamia*, of Florida and tropical America, the roots and half-buried stems of which yield a kind of arrowroot."

To natives of South Florida coontie will always mean the specific type, *Zamia integrifolia*, which is found also in small quantities on the islands of Andrus and Abaco, in the Bahama Islands, according to John B. Hurst of 6 N. E. 89th Street, Miami, who states that he believes some is also grown in the southeastern part of Cuba.

Mr. Hurst used coontie for the subject of a college thesis but other than that not enough has been said and written to preserve the history of an industry now lost and a plant which has all but disappeared.

His father, Mr. A. B. Hurst, established one of the best known mills in 1910 at Biscayne, or what is now N. E. Second Avenue and 103rd Street. An arrowroot wafer, manufactured by the National Biscuit Company, was made with starch produced at this mill. Starch from this mill was shipped to Italy for the use in the manufacture of spaghetti.

During the first World War Mr. Hurst operated his mill 18 hours a day to supply the United States government. It had been found that the first nourishment a gassed soldier could take was a thin arrowroot gruel made with a beef broth base.

According to Mrs. A. C. Barrett, 515 N. E. 83rd Street, her father, Mr. W. M. Mettair, who came to Dade County from Tallahassee in 1869 as a young man of twenty, first worked in coontie at Cutler. Later in 1902 Mr. Mettair operated his own starch mill on the shore of Biscayne Bay, near what was then known as Knight's Dock. Here sailboats docking from Key West could be loaded with the product for shipment to that city and the Bahamas.

This section, known as Lemon City, was growing into a thriving community. The Knight Brothers, D. R. and John, owned a large store at the dock site. There was a sawmill, and a sawdust street led to the postoffice and store. Homes faced a path along the Bay and here lived the Currys (Henry Filer's uncle), Mrs. Keyes, where the library was later started, the Harringtons, Russels, Bill Pent, and the Mettairs.

Mr. Mettair originally owned a full section of land upon which a great deal of Lemon City grew up. Even today Mrs. Barrett says, she and her brothers and sisters are called upon to give quitclaim deeds to private properties and even for roadways.

Mrs. Barrett remembers from her childhood a commonly used expression among the settlers: "Guess I will have to dig coontie." This statement became the measure of their discouragement when funds ran low, for digging coontie root brought only 20c a barrel.

Mr. Mettair's mill was probably a replica of those 1870 mills where no doubt, he had worked as a young man. His grinder was a log of pine, turned to be exact, and spiked diagonally with nails for grinding. The coontie roots were soaked over night and after grinding were fed into a hooper or deep box and from there put through a strainer rubbed constantly with running water. It was washed for two hours, the starch dropping to the bottom where a hole at what was called "starch level" drained away the water. This "red water" was found to make good fertilizer for home use and the discarded pulp, also good fertilizer, was sold as a by-product.

The wet starch was packed into barrels to be washed again three times, while stirring and settling. It was allowed to reach the bubbling stage in fermentation for then all dirt and sugar came out. The residue from this "yellow contie" was cooked and fed to the pigs, making another useful by-product.

William Mettair, the oldest son, and inventor of the family, in 1904 devised a revolving strainer which eased the manual labor, resulting as well in a purer product.

The finished starch was spread out on canvas driers and kept broken up until completely dry, before it was packed into barrels for shipment. It required one ton of coontie root to make 200 pounds of starch through this process.

Asked for her recipe for pudding Mrs. Barrett stated that she never measured, but wet the starch in cold water using "just enough" and then poured on boiling water until the mixture took on a clear yet thick consis-

tency. The skin on top would have a bluish tinge. The pudding was sliced when cold and served with a sauce made of yolk of egg creamed first with sugar and then butter. No sugar was used in the pudding itself, the sauce providing the sweetness.

Since this delicacy belongs to the past, coontie mills having disappeared along with the local supply of the plant perhaps Mrs. Barrett can be forgiven for her lack of exactness.

Sometimes this starch was used by the Mettair family for laundry purposes but great care had to be exercised for it was "the stiffest starch" known for such use.

In 1896 when the family home was located at what is now 71st Street Mr. Mettair shod their spotted ponies for the Indians while working his farm and carrying on other types of business typical of that day's need. It was there that the older children in the family watched the Indians in their temporary camps. The Indians washed the roots, grated them by hand and strained them into a vessel, sometimes using a canoe for this purpose. The precipitate was washed and strained through baskets after which it was ready to use in the form of cakes roasted in the ashes, the poisonous cyanic acid evaporating in the baking.

I failed to learn the capacity of the Mettair mill, but the Hurst mill, operated on a large commercial scale, ground from 10 to 12 tons of roots a day except during World War 1 when the capacity was increased to 15 and 18 tons. The starch content being higher in the fall and winter grinding usually stopped in May and was not resumed until August unless orders were pressing. The starch content, to quote Mr. Hurst, is "as high as 20 percent in the winter and as low as 8 percent in the summer."

At the Hurst mill, which was a steam plant, the roots went through a grinder, next were passed over a brass seive, then a silk seive, with streams of water spraying over them, and then settled into long trays. From these the product was shovelled into drying racks and left to dry in the sun. Later the starch was settled into large tanks and re-settled three times, the water being extracted by a centrifugal machine. Next it went into an air drier heated by steam coils, was then pulverized, and finally packed for shipping into 100 pound bags.

Analysis proved the result to be a chemically free starch with very little fiber, a strictly edible product. It was used for cookies, crackers, cocoa filler, ice cream compounds, and chocolate candy, as well as in spaghetti and starch puddings.

It is recommended to those insatiable collectors of recipes that they seek out a copy of the "Florida Tropical Cook Book" edited in 1912 by the Aid Society of the First Presbyterian Church, Miami. This book carries many recipes contributed by church members, including Mrs. A. B. Hurst, for use of this starch in sauces, gravies, puddings, pies, etc.

Mouths will water in vain, for slow growth, an antipathy to cultivation, together with the onslaught of bull-dozers in a spreading community, has wiped out coontie as a commercial product. The plants are rarely seen except in a few gardens whose owners love to preserve native materials, and as impressions in native rock where they have left their fern-like tracery.

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