

**The History of Chayote (Mirliton) In the United States:
“One of the Noblest Gifts the Vegetable Kingdom Can Offer Man”**

By Lance Hill, Mirliton.Org

In 1898, David Fairchild, who would become an important plant explorer for the United States Department of Agriculture (USDA), passed through New Orleans at the beginning of a global journey during which he sought to discover new plants for growing in the United States. While he was visiting the Steckler Seed Company, business officials there told him of a Frenchman who grew an unusual vining plant in the area. Then, as now, Louisianans called this plant and its fruit “mirliton,” while people in Mesoamerica, where the plant flourishes, called it “chayote” (chī- 'yō-tā). Fairchild promptly visited the Louisiana grower and was smitten by the vines’ luxurious growth and large, cordate leaves, attributes that make it a favorite landscaping vine. In his ensuing travels, Fairchild discovered the chayote growing in Madeira, Portugal, and in Algeria, where he sampled the fruit and found it delicious. The arbored vines hanging with waxy fruit that range in color from emerald green to ivory white had long been grown for ornamentation in such places, and Fairchild would later rapturously describe them in his writings. He became convinced that the chayote could become a mainstay in U.S. agriculture.¹ (“America” and “U.S.A.” will be used interchangeably in this article.)

But the plant never took root in most of the United States. Despite thirty years of the USDA Plant Introduction Department’s efforts to promote the vine, the hapless chayote remains an evasive rather than invasive species. Why did a plant that is easily grown, bountiful, and enjoyed around the world fail to find a more significant place in the U.S. market, or even in the country’s home gardens? As we will discover, the answers to this question involve cosmetics, finances (time and

1. This article was published in 2020 as “The History of Chayote (Mirlitons) in North America,” and revised and updated in 2022. David Fairchild, “Early experiences with Chayote,” *Florida State Horticultural Society, Proceedings*, 60 (1947): 172–78; a thorough discussion of the United States Department of Agriculture’s “Plant Introduction” program can be found here: Amanda Harris, *Fruits of Eden: David Fairchild and America's Plant Hunters* (Gainesville: University Press of Florida, 2015).

money), poor agricultural practices, the U.S. palate, and some unfortunate varietal choices.

A Unique Fruit

Let's pause here to clarify the unique nature of the chayote (*Sechium edule*): it is a fast-growing, aggressive, climbing perennial vine belonging to the cucurbitaceous (gourd) family with characteristic grasping tendrils; it bears an edible, squash-like fruit with a mild, crystalline flavor. The chayote originated in Mesoamerica, and all parts of the plant are consumed in different areas of the world, including the fruit, flowers, leaves, tendrils and tubers; it also holds great potential for plant-derived pharmaceuticals.

A single, soft, almond-shaped seed within each fruit draws nutrients and water from the fruit. Since the pit-like seeds cannot be desiccated and saved, the chayote germinates *inside* the fruit and is propagated by planting the complete fruit. In other words, the whole fruit must be used as seed. Only in the twentieth century have growers and scientists developed methods for growing mirlitons from vine cuttings and micro-cuttings.²

The chayote is a singular species, taxonomically, but it has many infraspecific varieties or cultivars that are ranked below the primary taxon and have sufficiently variable characteristics to warrant distinguishing from the principal species, *Sechium edule*. Its varieties have myriad morphological qualities of leaf shape and petiole length; the fruit differ in size, color, shape, skin cover, spines, lenticels, grooves, ridges, texture, and flavor.³ In addition to fluctuating morphological qualities, chayote varieties differ in pest and disease resistance, flowering and fruiting interval periods, and—most critically—adaptability to climate and altitude.

Such infraspecific differences among chayote plants can dictate success or failure when the vine is introduced to new environments; a lack of understanding the dynamic between variety and environment contributed to the chayote's

2. S. Sweetly, R. Rani Asha, and N. G. Ramesh Babu, "Shoot Reclamation of Chayote from Nodes Through Micropropagation," *World Journal of Pharmacy and Pharmaceutical Sciences* 7, no. 10 (2018): 1104–12, <https://wjpps.com/download/article/1538222121.pdf>.

3. An excellent source for morphological differences in chayote in the Philippines is found here: Rhonda M. Oloan and Divina C. Jose, "Survey, Germplasm Collection, Characterization and Evaluation of Chayote (*Sechium edule*) Strains in the Highlands," *Baguio National Crop Research, Development and Production Support Center* (2011), Guisad, Baguio City, [http://bpi.da.gov.ph/bpi/images/Picture/CHAYOTE%202011%20\(1\).pdf](http://bpi.da.gov.ph/bpi/images/Picture/CHAYOTE%202011%20(1).pdf).

unsuccessful integration in the United States. For years, Louisiana agricultural officials believed a mirliton was a mirliton: that any variety—including those grown on different continents—could be purchased from a grocery store, planted, and successfully grown. But this made no more sense than encouraging home gardeners to purchase supermarket coffee beans for sprouting coffee plants in subtropical Louisiana without accounting for climate and altitude.⁴

Yet the mirliton *did* take root in Louisiana—and, if it is not a main player in Louisiana gastronomy, it does still maintain a place at the table there. Indeed, mirlitons were well-established in Louisiana by the mid-nineteenth century. As more of a poor-person’s vegetable-fruit, the mirliton doesn’t appear in many historical writings, which were the domain of the educated upper-class. But in an agricultural journal from 1847, a traveler gave an account of dining on mirliton at a plantation in Pointe Coupee Parish on the banks of the Mississippi River. By 1866, mirlitons were a competitive vegetable at the Louisiana State Fair. A New Orleans-area grower, W.R. Prague, won the “vegetable pear” (mirliton) category that year.⁵ Mirlitons remained an official state fair category for several years, until the annual event was moved from the fall, the time of major mirliton harvest in Louisiana, to the spring, when the crop is small or nonexistent.

A Plant’s Immigration Journey

How exactly did the chayote make its way to America, and to Louisiana in particular? Louisiana mirlitons were introduced during migrations from Mesoamerica and the Caribbean, likely via more than one courier. French, English, and Spanish colonialists spread mirlitons throughout their possessions; some migrants perhaps picked them up at ship stopovers in Jamaica and the French Caribbean. There are unverified claims that a relatively small group of roughly 2,000 Canary Islanders that the Spanish sent to Louisiana may have brought some chayote from their homeland. But the most probable source was the Haitians who

4. Variety examples can be found here: J. Cadena-Iñiguez, C. H. Avendaño-Arrazate, M. Soto-Hernández, L. M. Ruiz-Posadas, J. F. Aguirre-Medina, and L. Arévalo-Galarza, “Infraspecific Variation of *Sechium edule* (Jacq.) Sw. in the State of Veracruz, Mexico,” *Genetic Resources and Crop Evolution* 55, no. 6 (September 2008): 835–47, <https://link.springer.com/article/10.1007/s10722-007-9288-4>.

5. J. N. O. Lewis to J.S. Skinner, *Monthly Journal of Agriculture* (1847): 844; “The State Fair. The Fifth Day’s Proceedings,” *The Times-Picayune* (published as *The Daily Picayune*), November 24, 1866: 1, 4, Newsbank.

flooded Louisiana between 1789 and 1815, during the time of the Haitian Revolution and slave rebellion. The revolution in Haiti (formerly Saint-Domingue) brought between 15,000 and 20,000 refugees to Louisiana, and 80–90 percent of those settled in the New Orleans vicinity. This migration of free people of color, slaves, and whites came in several waves before and after the Haitian Revolution; the Revolution established the first-ever Black republic in Haiti itself.⁶

Some 25,000 Haitian refugees first migrated to Cuba, and another several thousand went to Jamaica. Angered with Napoleon for attempting to put his brother Joseph on the Spanish throne, Spanish colonialists declared French settlers in Cuba *personae non grata*, which forced Haitian refugees to find safe harbor elsewhere. By 1810, more than 9,000 of those Haitians had reached Louisiana from Cuba. This migration brought about a stunning demographic change: the new Haitian population in Louisiana was of roughly equal percentages whites, free people of color, and slaves, meaning that the formerly evenly divided black and white population was now eighty percent free people of color and slaves.⁷

It remains an informed guess that this migrant population brought its new hosts the mirliton, introducing it to the New World. Certainly, the great Haitian migration to Louisiana created two critical preconditions for introducing a new plant: demand and supply. Mirlitons were staples in the Haitian diet (demand). Fruit harvested for seed can last several months when stored for a ship journey, and the relative ease of transporting seed would have made it possible for migrants to bring mirlitons to Cuba and Jamaica—and ultimately to Louisiana (supply). For the mirliton to proliferate in Louisiana, it was crucial for the imported seed to be a variety adapted to growing at sea level. Of the Haitian refugees who travelled to Louisiana by way of Cuba, most had temporarily settled in Santiago and Baracoa, Cuban coastal cities whose sea-level elevation would have been accommodating to the same

6. Nathalie Dessens, *From Saint-Domingue to New Orleans: Migration and Influences* (Gainesville: University of Florida Press, 2007), 18, 27. Haitians were expelled unless they had a Spanish spouse or had requested naturalization; *Ibid.*, 35. Totals were 3,551 white, 15,666 free people of color, and 3,105 slaves. The great wave of Cuban migration doubled the population of New Orleans, resulting in a larger free-people-of-color population, and with slaves comprising about one-third of the population; *Ibid.*, 31–39. Legally, free men of color older than fifteen were forbidden by law to immigrate, but the law was largely circumvented; *Ibid.*, 43.

7. *Ibid.*

8. *Ibid.*

chayote varieties that would also have grown well when transplanted in coastal Louisiana. The most persuasive evidence for Haitians having brought Louisiana the mirliton is that only two areas in the world use the name “mirliton” for chayote: Haiti and Louisiana.⁸

Searching for a New Name in a New World

Much of the nineteenth-century history of mirlitons is limited to the historical memory of Haitians; almost none exists in written records. The documentary record of the New Orleans variety is first found in the seed catalogs of the times. The original New Orleans variety was sold by the two principal seed and plant companies, Steckler Seed Company and Richard Frotscher Seed Company. Throughout the last three decades of the nineteenth century, both companies advertised mirlitons, and both used the anglicized term “vegetable pear” in place of “chayote” or “mirliton.” It is symbolic of the strong divisions between the French/Francophones and the Anglo-Americans in New Orleans that these seed companies—both “American” in local vernacular—did not initially know mirliton plants bore edible fruit. At the outset, they both advertised mirlitons as an ornamental. It *is* a twining vine with fast-growing stems and grasping tendrils, able to blanket shrubs and buildings as ivy and kudzu do. (fig. 1) But it is most useful as a food source, and someone, possibly a French person, eventually persuaded the seed companies to also list the mirliton as a fruit-bearing vine. Even then, however, they continued to call them “vegetable pears.”

It was difficult for the seed companies to explain to readers what exactly this exotic new vegetable was. If they couldn’t pronounce the name—both “chayote” and “mirliton” presenting pronunciation challenges—how could they imagine its appearance? (To the seed companies’ credit, “vegetable pear” does conjure an accurate image.) There was even confusion about whether it was a fruit or a squash, owing to the intermingling of scientific and popular names for vegetables. Botanically speaking, the mirliton is in the *Cucurbita* or gourd family; more precisely, it is a berry, owing to a single soft seed as an embryo surrounded by fleshy fruit. It caused a lot of confusion for the American farmer.⁹

9. Steckler Seed Company and Frotscher Seed Company catalogs, Tulane University Special Collections and Internet Archive <https://archive.org/web/> and the Biodiversity Heritage Library <https://www.biodiversitylibrary.org/>.



Figure 1. Kevin Boutte's mirliton vine in New Iberia, Louisiana. The plants covered 50,000 square feet in dense vine.

The first seed variety the UDSA acquired was the Steckler Seed Company variety, which had been grown in Louisiana since the early nineteenth century.¹⁰ But the department preferred a more cosmetically appealing fruit. In the nineteenth century, the Louisiana mirliton was relatively smaller, spiny, and without the deep furrows that are caused by five lobes in some varieties, similar to acorn squash.

It is not clear what the Louisiana mirliton variety looked like in the 1800s. There are botanical drawings of Mexican varieties from the eighteenth century, but the earliest existing image of the Louisiana mirliton is an engraving of a perfectly smooth fruit from a 1901 Steckler seed catalog (this was the first time Steckler

10. Earliest mention in agricultural journals is J. N. O. Lewis to J.S. Skinner, *Monthly Journal of Agriculture*, 1847, 412.

included an image). In all probability, this was an idealized image, as many Louisiana mirliton varieties, then and now, have thin spines and a porcupine-like appearance.¹¹ (fig. 2)

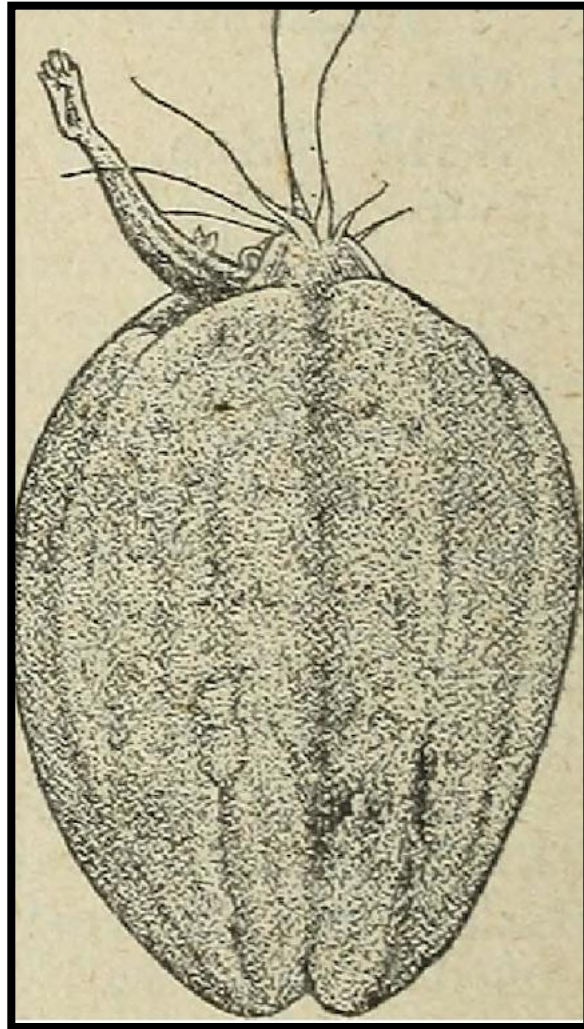


Figure 2. Earliest engraved illustration of New Orleans locally grown mirliton, 1901.

The earliest photograph of the Louisiana mirliton was taken by the famed surrealist photographer Clarence John Laughlin—a single fruit posed on a mirliton leaf. Though undated, the photograph was probably taken around 1936. The mirliton Laughlin captured is identical in shape and size to the smooth-skinned 1901 seed engraving in the Steckler catalog; it, too, is a relatively small fruit, obovoid and free of deep furrows (which botanists at the time referred to as “corrugation”). It

11. Biodiversity Heritage Library lists the catalogue publish date as 1904, but it appeared in hard copy collections in 1901; see the Steckler Catalogue at <https://www.biodiversitylibrary.org/item/149662#page/186/mode/1up>.

does, however, have a few spines on the wide end, which can result from cool weather. The photographed spines further suggest the Steckler engraving had cosmetically rendered the fruit spine-free to make the seed more marketable (fig. 3, fig. 4). Americans were not fond of porcupine fruits and were perhaps more likely to plant a seed whose packaging promised a smooth, spine-free exterior.¹²

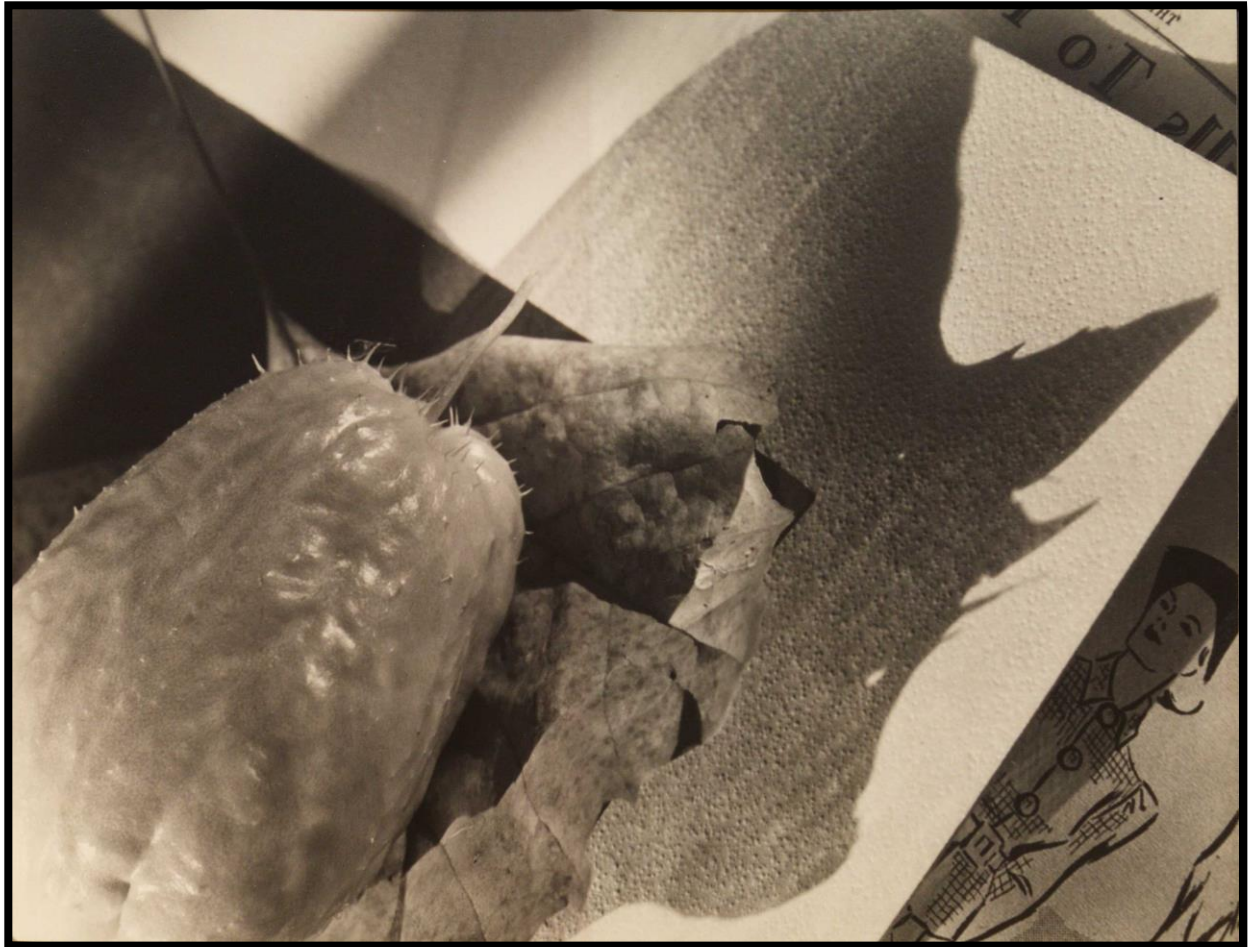


Figure 3. Surrealist photographer Clarence John Laughlin's picture of New Orleans heirloom mirliton from the 1930s, probably the earliest photographic image of the variety. Leaf shadow is from a mirliton leaf.

With the available evidence, it is reasonable to assume the Steckler mirliton variety was the most popular one in New Orleans when Fairchild first encountered it in 1898. Steckler sent several of these seeds to the USDA, of both the green and white varieties. The department logged them into its plant inventory with information on origin, sending agent, and phenotype. Looking at these plant inventories, it is clear there were other mirliton varieties grown in Louisiana

12. The Historic New Orleans Collection, Clarence John Laughlin Archive, New Orleans, Louisiana, Acc. no. 1981.247.5.

around the same time. For example, Henry McCall, a sugar plantation manager in Saint Rose, Louisiana, sent mirliton seed to the USDA in 1908. In the listing, it is described as a "large, smooth, light green and very prolific variety raised in Louisiana, but original source unknown." That it was "large" compared to other mirliton seeds from Louisiana indicates that it was different from the common New Orleans variety. The USDA planned for Saint Rose mirliton seeds to be "distributed to growers in the South with the object of encouraging its culture for the market."¹³

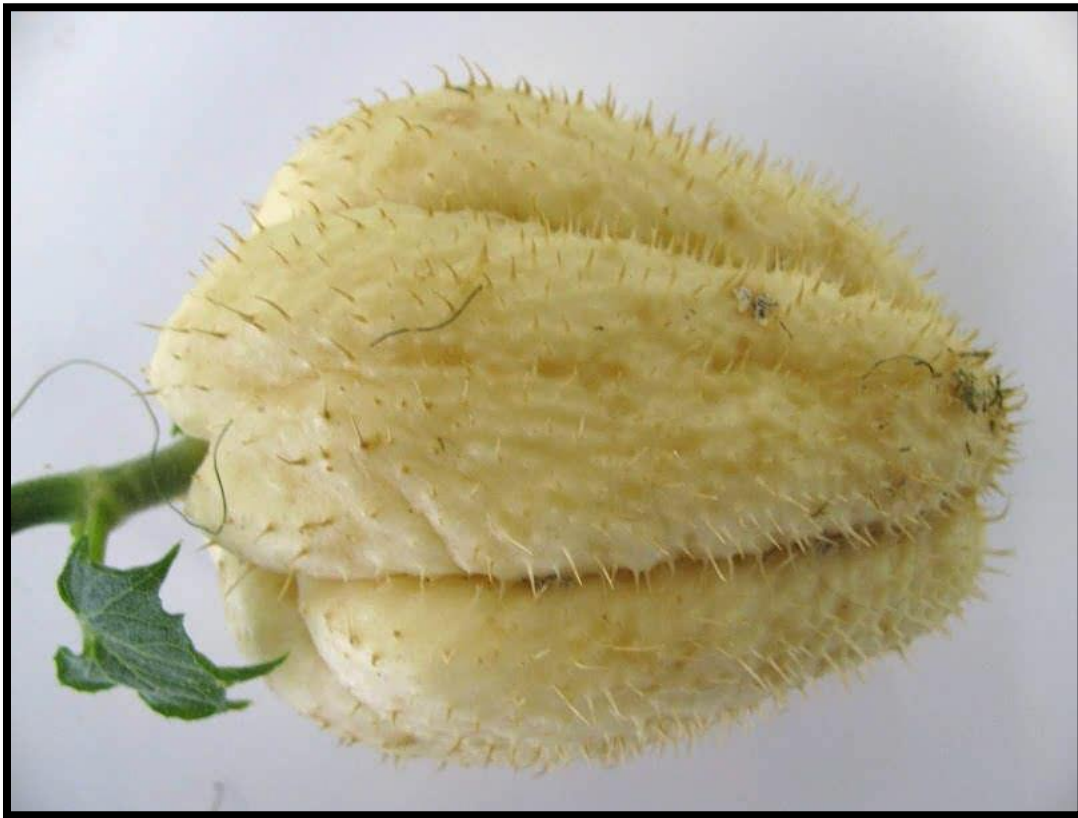


Figure 4. Terri Pie Louisiana Heirloom Mirliton variety, Sunset, Louisiana. This a very old variety that has now probably disappeared. Note the spines that were a frequent feature in older heirloom varieties.

Curiously, the USDA had a proven variety in the New Orleans mirliton, which had grown in Louisiana since at least the early nineteenth century, but the organization largely ignored it in the quest for a cosmetically superior variety. The USDA sought a rounder fruit with no furrows—quite literally another potato. Sure, the

13. "21966. *Chayota edulis* Jacq. Chayote. From St. Rose, La. Presented by Henry McCall. Received February 24, 1908," Fisher report, *Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction*, no. 12 (December 20, 1907).

mirliton's furrows made it difficult to peel without wasting substantial fruit, but Louisiana cooks had solved that problem by developing recipes that didn't necessitate peeling. One popular preparation, these days called stuffed mirliton, involves slicing the fruit in half and then boiling the halves until the pulp is tender enough to scoop. Similar to making twice-baked-potatoes, cooks combine the pulp with shrimp, ground meats, and spices, and spoon the mixture back into the shell-shaped skins for a second cooking in the oven. This technique works with even irregularly sized fruit, and it also avoids the troublesome sticky analgesic sap that emerges when a raw mirliton is peeled.

Chayote varieties were also grown in Texas and California in the nineteenth century (brought north by soldiers returning from the Mexican-American War), and a Texas seed company sent a local variety to the USDA, though little has been written about these varieties and no comprehensive descriptions exist.¹⁴

The USDA Invests in the Chayote

When Fairchild encountered the Louisiana mirliton in 1898, it was not the first time the plant had piqued the USDA's interest. The department had successfully introduced many foreign fruits, vegetables, grains, and nuts to the country; it had first catalogued *Sechium edule* in the late nineteenth century. But Fairchild's discovering the plant growing in America stimulated keen department interest.

Orator Fuller Cook, a plant explorer and a "special agent for tropical plants" for the USDA, authored the first publication designed to introduce the plant to American farmers, *The Chayote: A Tropical Vegetable*, in 1901; he followed up in 1903 with a companion bulletin called *Economic Plants of Porto Rico*.¹⁵ Cook was a specialist in Latin American plants, and the thirty-one-page bulletin was the first authoritative English-language overview of the chayote. The publication also included the earliest published photographs of chayote in the United States. (fig. 5)

Cook agreed with Fairchild's view that the chayote should be introduced into US agriculture, and he emphasized the plant's popularity by itemizing a long list of common names for it (currently there are more than thirty-five recorded names).

14. Heber W. Youngken, "Notes on the Dasheen and Chayote," *American Journal of Botany* (November 1, 1919), <https://archive.org/details/jstor-2435054/page/n5>.

15. Orator Fuller Cook, *The Chayote: A Tropical Vegetable* (Washington, D.C.: Government Printing Office, 1901), <https://archive.org/details/chayotetropicalv00cook/page/n8>; Orator Fuller Cook, G. N. Collins, *Economic Plants of Puerto Rico* (Washington, D.C.: Government Printing Office, 1903), <https://archive.org/details/economicplantsof00cook/page/n5>.

Cook also noted in his bulletin that Fairchild had observed Creoles in New Orleans calling chayotes “mirlitons,” a popular term then, and also using “*chouchou*,” a Brazilian name for the fruit.¹⁶ It is noteworthy that “*chouchou*” was a common name for chayote in New Orleans, Brazil, and Réunion Island in the Indian Ocean, which provides some evidence of a common variety between those geographies.¹⁷

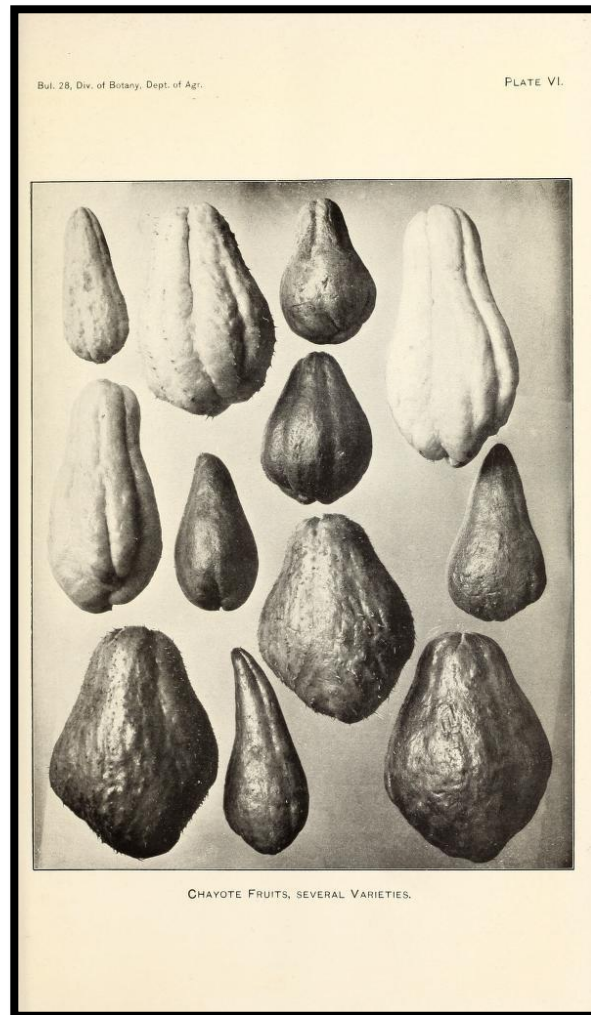


Figure 5. The earliest published photographs of chayote in the United States, 1903.

With the publication of Cook’s bulletin, the USDA launched an organized, worldwide search for the ideal chayote variety through a program formed under the

16. *Chouchou* is no longer in common usage in New Orleans. The author has never heard mirlitons referred to as “*chouchou*” in New Orleans, but it is a Black vernacular term for gossiping. In French, it often refers to something inconsequential; hence gossip.

17. P. Advise Desruisseaux, “Cucurbitacées Tropicales : Chouchou et Paille de Chouchou Patole, Pipangaye, Margose, Calebasse” (Paris: A. Challamel, 1908), <https://catalog.hathitrust.org/Record/007524205>.

auspices of the Bureau of New Plants and Seed Introduction, which had been established in 1898. This chayote program supplied American growers with free chayote seeds. The program got a jump start in 1902 with the planting of two seeds in an abandoned sugarcane field on Cat Island, South Carolina. The two vines yielded 250 fruit by 1905, much to the amazement and delight of department officials.

The hundreds of varieties of chayote can be classified by phenotype (appearances) or genotype (gene makeup). Genetic analysis did not exist in the early 1900s, however, so botanists used phenotypical qualities to taxonomically define a common species.¹⁸ What varieties were tested in the United States during this time? In an annually published Plant Inventory, the USDA kept careful records of seed imported between 1900 and 1927. We know from these records that the USDA imported chayote seed from scores of countries, including Mexico, Guatemala, Jamaica, Cuba, Puerto Rico, French Antilles, Madeira, Algeria, New Zealand, and Australia. All varieties are descendants of the original Mesoamerican chayote. The chayote is prolific and widespread in part because European colonial powers disseminated the fruit around the world in all of its tropical colonies, including Brazil, Madeira, Réunion Island, the Philippines, and Indonesia. Catholic priests introduced chayote to India, where poor farmers enthusiastically adopted it and where it remains a strong food tradition. The French in particular found that chayote, with the addition of sufficient sugar and spice, could substitute for apples in pastries in tropical climates. Ingenious local populations used every part of the plant, including the fruit, tendrils, leaves, and “chinchayote,” which is the potato-like tuber that grows underground beneath the plant and can weigh as much as forty pounds. (fig. 6)

18. For recent study of genetic analysis, see Víctor Manuel Cisneros Solano, Jorge Cadena Iñiguez, Carlos Hugo Avendaño Arrazate, Ma. de Lourdes and C. Arévalo Galarza, Grupo Interdisciplinario De Investigación en *Sechium edule* en Mexico, *El Chayote 2* (Mexico, 2011), https://www.gob.mx/cms/uploads/attachment/file/168845/El_Chayote_Volumen_2.pdf.

Sechium Edule
~~Chayote~~

Used in Dept. Circular 286, June 1923.



A GUATEMALAN INDIAN HOLDING A CHAYOTE TUBER.

These tubers are esteemed a very palatable food in Guatemala, where they are used much as the potato is used in this country. (P17757FS.)

Figure 6. Chinchayote is the large underground tuber that begins to grow after the first-year planting. It is a water reserve for the plant; it can be harvested without damaging the plant and cooked like a potato. Not traditionally harvested in the United States.

Jamaicans even made chayote wine, and creative people on Réunion Island invented a method to convert vines into a white straw for making fashionable French women's hats.¹⁹ (fig. 7)



Figure 7. Examples of vine-weaving craft of bleached chayote vines in Réunion Island.

Partly the colonial powers wanted to nurture any crop that could fill commercial needs and become a food source for locals. The chayote was an ideal backyard crop, but it had not been in wide-scale production because of its viviparous nature. Vivipary is rare in plants and occurs when seeds begin to sprout before they detach from the parent vine. The chayote, which fruits twice a year, produces mature fruit only thirty days after flowering; fruit can germinate on or off the vine within several weeks after the fruit matures, sending out a shoot and small roots that make the fruit tough and dry (fig. 8).

In the United States, Fairchild found a possible solution to the chayote's vivipary problem. Col. Theodore Clay Norcott, head of the corporation that owned the Luray Caverns in Virginia, offered to overwinter mirliton seed in the caverns, which had a naturally constant temperature around 54°F. The experiment was successful, proving that cool temperatures could effectively prevent germination. Modern refrigeration did not become feasible until Freon was developed in the 1930s, however; as not every grower had an available cave, the cooling process

19. Desruisseaux, *op. cit.*, 20.

wasn't widely replicated, and germination continued. It was not until the 1990s that food scientists re-learned what Fairchild had discovered almost sixty years earlier at Luray Caverns: that chilling chayote to around 55°F delays germination for several months. Modern food producers and suppliers embraced the process, which led to large-scale chayote export around the world.²⁰



Figure 8. Sprout and roots emerge from the large apical cleft of seed. At this point, the fruit has grown too tough to eat.

Back in the early 1900s, when the only chayotes were local chayotes, individual growers near Jacksonville, Florida, continued to test varieties. The USDA attempted to establish an experimental garden in Brickell, Florida, but it was short-lived. By the time Fairchild visited the station, the land company had virtually

20. David Fairchild, op. cit., "Early Experiences with Chayote," *Florida State Historical Society* (1947), and a handwritten draft of same at Fairchild Collection; Louis H. Aung, Richard L. Emershad, Charles M. Harris, David C. Fouse, and Roger E. Rijj, "Seeking Solutions to Chayote's Sprouting," *Agricultural Research* (USDA, Washington, D.C., 1992),

https://archive.org/stream/CAT90891937469/CAT90891937469_djvu.txt.

abandoned it. A three-day downpour producing seventeen inches of rain had flooded the station; for days, the station manager had lived on chayote. The rain had waterlogged and killed all the experimental plants. “It was a sad sight to see the abandoned plants, and I have always regretted that such a start could not have been kept going for it would have shown many things,” lamented Fairchild. The station was moved to Brooksville on the west coast of Florida, away from the battering hurricanes, in 1912. There, three plants rapidly produced four hundred fruit in 1913 and, eventually, one thousand fruit in 1915.²¹

Fairchild embarked on a site visit to Brooksville in January 1916 to further investigate the chayote experiments. He found an abundant crop with some fruit still hanging on the vine in Florida’s balmy winter. While there, he spoke with Sam Lang, an African American employee who had become knowledgeable about the new crop. Our best clue to the varieties the USDA first tested comes from the numerous photographs Fairchild captured during trips to the two-acre Brooksville plant introduction station. Four photographs of freshly harvested fruit taken between 1916 and 1918 show smooth, large, ellipsoid-shaped chayotes with prominent deep furrows—different from the Steckler Seed Company’s New Orleans mirliton. The chayotes in the photos, which were taken over three years of crops, all appear to be the same variety. They are almost identical to the coastal mirliton varieties that have been most popular among Louisiana growers since the 1940s (fig. 9, 10, fig. 11, fig. 12).

After stopping in Brooksville in 1916, Fairchild drove to New Orleans, where he had first discovered mirlitons in 1898. There, he visited a mirliton truck farm in the Lower 9th Ward. (The farm location exists to this day as a 4,800 square-foot lot of rich alluvial soil located at 623 Egan Street, only a few blocks from the Mississippi River). The grower, August Baudean, planted about eighty vines on the lot. His father had grown mirlitons in the 1870s. Baudean had an unusual technique for avoiding the parasitic root-knot nematode problem that plagues mirlitons to this day: he planted his mirlitons as an annual and then pulled up the vines at the end of the harvest, planting a new vine once a year before the nematode could heavily parasitize the plant. While it sounds like a great deal of labor, a one-year vine can produce between thirty and fifty fruit; the eighty vines on his small lot could produce a staggering 2,400 mirlitons annually, and that required Baudean to set aside only about one hundred seed-fruit for the next planting. Nematodes are slow to parasitize an entire plant root system, so such an annual planting technique was

21. David Fairchild, “Report of the Southern Trip, Spring of 1914 by David Fairchild,” Fairchild Collection.

an ingenious method for minimizing crop damage.²² Baudean also practiced pinching back the first emerging sprouts while fruit were still on the vine. This allowed his mirlitons to grow to two pounds without sprouting.²³



Figure 9. White and green varieties grown in USDA plant test station in 1916. Large, deeply furrowed fruit. Select your PDF reader's magnification feature to increase images.

22. David Fairchild, "Southern Trip, 1916. January 27th to March 4th," hand-marked in the upper right-hand corner as "99794, agr.," Fairchild Collection.

23. *Ibid.*



Figure 10. Selection of chayote grown at USDA Brooksville, Florida, station, on right-hand side, 1918.



Figure 11. Sam Lang with crate of chayote grown at USDA Brooksville, Florida, station, 1918. Similar in size and shape to Louisiana heirloom mirlitons. See Figure 12.



Figure 12. Francis Landreneau Louisiana heirloom mirliton variety from Eunice, Louisiana. It is the same type as many other Louisiana varieties: large, light-green, obovoid-elliptical, deep longitudinal furrows, smooth skin.

In 1919, Fairchild traveled to California, where chayote had been grown since the nineteenth century. There, he probably met with nurseryman John Sexton; he later recommended that the USDA subsidize Sexton's Santa Barbara nursery to test new varieties. The only photograph of California-grown chayote, taken in 1916, shows a fruit similar to varieties popular in Louisiana today,²⁴ though reports elsewhere indicate a smaller fruit was commonly grown at that time in California.²⁵ (fig. 13) Chayote enjoyed popularity in California, where there were large chayote farms until an influx of less expensive Costa Rican chayote arrived in the 1980s and put

24. "Louisiana Heirloom Mirliton Varieties," accessed February 6, 2020, <https://www.mirliton.org/photo/louisiana-heirloom-mirliton-varieties/>.

25. Fairchild, op. cit., "Early Experiences with Chayote"; David Fairchild, "Western Trip, 1919 August 21st to November 8th, incl., by David Fairchild," Fairchild Collection; "Louisiana Heirloom Mirliton Varieties," accessed February 6, 2020, <https://www.mirliton.org/photo/louisiana-heirloom-mirliton-varieties/>.

California farms out of business. Louisiana State University (LSU) also tested mirliton varieties during the time of Fairchild's travels, but no records of this project exist. Most of LSU's research was devoted to major staple crops like sugar and rice.²⁶

The USDA built on its early successes by producing two brochures for growers and state extension services.²⁷ During World War I, the department temporarily sidelined its new plants introduction program while researching dehydrated foods for the war effort. Nevertheless, the department published a pamphlet in 1918 that included much that the chayote experiment stations had taught them. Titled *The Chayote: An Excellent Southern Vegetable*, it contained planting advice and recipes, aiming to encourage demand by introducing chayote to the American palate. It was the first publication to mention a raw chayote's unfortunate habit of secreting a latex-based, sticky, analgesic (numbing) sap that's bothersome but easily avoided when cooks peel the fruit under running water. This insight, as many regarding the mirliton, was lost in subsequent decades and had to be re-discovered in the twenty-first century.²⁸

26. *22nd Annual Report of the Agricultural Experiment Stations of the Louisiana State University and Agricultural and Mechanical College, 1909, The New Advocate Journal* (Baton Rouge, 1909).

27. *The Chayote: An Excellent Southern Vegetable*, USDA Bureau of Plant Industry, Office of Foreign Sees and Plant Introduction, Fairchild Collection (Washington, D.C., 1919). (Author's copy says September 20, 1918.)

<https://babel.hathitrust.org/cgi/pt?id=coo.31924003395807&view=1up&seq=3>.

28. Ibid.

Sechium edule

Negative # 16598 A
5 x 7

Chayote



Chayotes grown by Joseph Sextion. This is only a portion of the crop from one vine.

Goleta, Calif.
Nov. 7, 1915.
Wilson Popenoe.

Figure 13. California chayote grown in 1915. These may have originated from the USDA seed program, though the chayote had been grown in California for decades.

The pamphlet carried a picture of a furrowed mirliton, similar to the variety tested at Brooksville, and provided instructions for cultivation, trellising, and fertilizing.²⁹ It also suggested creating a basin around the plant for water, and it underscored that chayote were susceptible to fungi for which there was no known cure. It noted that Bordeaux mixture, a fungicide of copper and sulfate, had been tried, and that

29. Ibid. The pamphlet recommends fifty pounds of manure per plant, one and a half pounds of commercial fertilizer in spring and fall if needed, and mulching for the winter to prevent freeze damage.

arsenate of lead and nicotine had been used to control pickleworms in melon production. Root-knot nematodes were a very severe nuisance, as they are to this day, but the chayote withstood the parasitization for one to two years, as Baudean had found.³⁰ The bulletin noted that seeds should be stored at between 45°F and 60°F, and at an optimum 60°F to prevent premature sprouting, an important but subsequently fading insight.³¹ (fig. 14)



Figure 14. Sprouting mirlitons being matured for planting.

In 1916, the USDA’s chayote program veered off-course with the discovery of a new variety. Even while the department was successfully growing large, furrowed mirlitons in Brooksville, a famous department plant explorer claimed to have discovered the ideal chayote variety in Guatemala, the *perulero*. From Guatemala, Wilson Popenoe notified the department that peruleros were “devoid of spines,

30. USDA, op. cit., “The Chayote: An excellent Southern Vegetable.”

31. Aung et. al., op. cit., “Seeking Solutions to Chayote's Sprouting.”

round, without suture and were either green or white . . . These were most attractive and their smoothness made them easy to prepare. They also had a superior flavor.” (fig. 15) Through Popenoe, the USDA found what it had sought: a cosmetically attractive fruit, small, spherical, and free of furrows and spines. In other words, a chayote that did not look like a chayote; it looked like a potato.³² (fig. 16)



Figure 15. Chayote collected by USDA officer William Popenoe in 1916 in Guatemala. Shows the range of color and shape. Middle row, right side are peruleros.

32. Letter From Popenoe, *Plant Immigrants*, no. 124 (Washington, D.C.: Office of Foreign Seed and Plant Introduction, 1916): 1041-42, retrieved from https://archive.org/details/cat30850057_124/page/n9. Popenoe has sent *peruleros* and says there are many varieties in Guatemala, though he is “on the wane” from the fruit and thinks the tuber (*ichinta*) is much better tasting and similar to cassava. He writes he does not see any disease but says they may not fare so well in another climate.

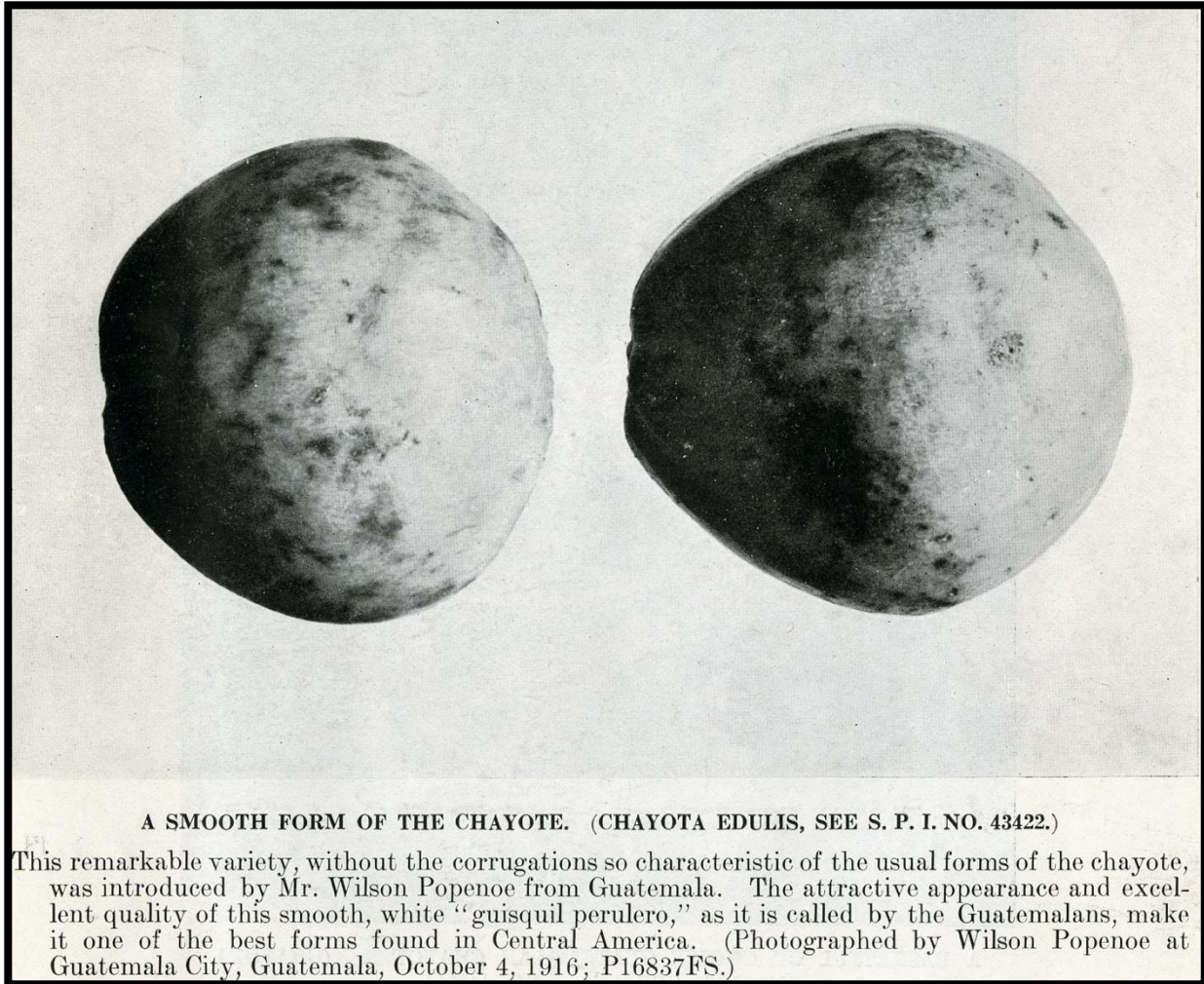


Figure 16. Two peruleros that Wilson Popenoe encouraged the USDA to popularize in 1916, distinguished from Louisiana mirlitons by their small tennis-ball size, globular (rather than obovoid) shape, and absence of furrows and ridges.

Popenoe misunderstood the meaning of *perulero*, thinking it meant the chayote had come from Peru. This was not likely, since chayote were concentrated in Mexico and Central America, and Peru was a distant country of large, frigid mountain ranges. Fernando Moreira, in his brilliant research on the etymology of the word "chayote," attributes the term *perulero* to the sixteenth-century Portuguese *botija perulera*, which means "peurivan bottle" and refers to a gourd-shaped container. It is likely the *perulero* chayote was so named for its shape.³³ The USDA set about receiving and distributing *peruleros* for experimentation in the United States.

33. Fernando Moreira, "Chayote: Pre-Columbian Origins and Dispersal," *Horticultural Reviews*, no 43, ed. Jules Janek (September, 2015): 89-144. (Draft in author's possession.)

Despite such problems with varietal selection, the USDA chayote public information campaign continued, culminating in 1923's definitive department *Circular 286*.³⁴ The bulletin opens with observations on the chayote's contradictions: they had been successfully grown throughout the South—in New Orleans, Savannah, Charleston, and Columbia—but the “natural conservatism of individuals with reference to their food habits has prevented the more rapid spread of chayote.”³⁵

The publication is a thorough overview of chayote culture and uses. It notes that chayote has been used as forage and ornamental planting, and that “chayote straw” from Réunion Island was used for hats and basketry. It also delineates the fruit's nutritional characteristics, including its protein, carbohydrate, and fiber content. It discusses recipes the department tested with restaurants, such as creamed, buttered, fried, and stuffed chayote, and chayote pie filling.

Circular 286 marks the first instance of the USDA's publicly discussing the major obstacles to popularizing chayote. For the market to embrace chayote, a new vegetable unfamiliar to most Americans, it had to first be produced in sufficient quantity to create demand. Supply needed to precede demand. Putting demand before supply was a daunting task with inherent flaws. First, the USDA had to convince consumers to eat a vegetable that most people couldn't pronounce in Spanish (chayote) or French (mirliton), not to mention that it wasn't part of the nation's food traditions. Moreover, chayote was an oddity in American agriculture—a vining, climbing squash which required neither plough nor hoe, but instead a trellis system.

Circular 286 states that, “quantity production of course must precede quantity consumption,” but it cautions that production “can be undertaken by the private grower only at considerable risk of loss.” The risks included the initial expense of “planting and equipping with suitable arbors”; plus the cost to ship a highly perishable fruit at “express rates” to distant markets, rendering “the margin of possible profit very narrow.”³⁶

Still, the USDA thought the chayote warranted,

34. L. G. Hoover, *The Chayote: Its Culture and Uses*, Circular 286, United States Department of Agriculture (Washington, D.C., September 28, 1923), <https://archive.org/details/chayoteitscultur286hoov/page/n1>.

35. Ibid.

36. Ibid.

“ . . . a place in every garden where it can grow successfully in the South and Southwest. If the surplus for private gardens is placed on local markets and there be kept constantly before the public, in few years the chayote will become widely known as one of the dependable food crops of the region.”³⁷

Such strategizing wasn't necessary to endear Americans to imported dates, figs, oranges, or avocados, which naturally conformed to the American preference for sweet and fatty foods. In the early part of the twentieth century, an orange was often a child's solitary Christmas present. The avocado's advantage is having the greatest fat content of any vegetable on the planet; seventy-seven percent of an avocado's calories come from fat. In contrast, chayotes are nearly fat-free, with only two-tenths of one percent fat.³⁸ For Americans, as the eventual explosion of fast food evidences, “full fat feel” became a major goal for food innovators catering to American tastes.

Mirliton recipes were, and are, abundant, but even in mirliton-loving Louisiana the most popular recipe is for butter-laden, spice-riddled stuffed mirliton, a preparation that overshadows the mirliton's mild, crystalline flavor. For most of the nation at the beginning of the 20th century, hot spices were undesirable; in fact, they were considered borderline sinful, but they worked well with the neutral-flavored mirliton. Indeed, a born-and-raised New Orleanian once asked me what a mirliton was. I queried him: Had he never had stuffed mirlitons? A mirliton is the green shell that holds the stuffing, I explained. “Oh,” he replied. “You're supposed to eat that?” (fig. 17) Only in Acadiana is there an affection for the relatively unadorned mirliton. Cajuns often boil and serve them like potatoes, seasoned only with butter and salt and pepper; or they serve them sliced and chilled like raw celery or carrot spears.

37. Ibid.

38. Adam Drewnowski and Eva Almiron-Roig, “Human Perceptions and Preferences for Fat-Rich Foods,” chapter 11, in ed. I. P. Montmayeur and J.P. le Coutre J, *Fat Detection: Taste, Texture, and Post Injjective Effects* (Boca Raton: CRC Press/Taylor & Francis, 2010), <https://www.ncbi.nlm.nih.gov/books/NBK53528/#ch11.s2>.



Figure 17. Classic spicy stuffed mirliton, also called “mirliton pirogue,” leaves little mirliton flavor.

One of the department’s self-inflicted obstacles to introducing chayote to the United States was the arbor system used at the Brooksville, Florida, garden as an example. Photographs show a trellis system comprised of two-by-two wooden T-posts with wire stretched between the posts, similar to a clothesline. Perhaps because of Brooksville’s location on the Gulf of Mexico, in the path of frequent hurricanes, the USDA felt compelled to construct a sturdy trellis. But that was an expensive proposition for small farmers remote from forests. (The USDA had the advantage of ready access to cheap timber in the surrounding pines of Florida.) The department realized that chayote farming could “be undertaken by the private

grower only at considerable risk of loss,” and that “planting and equipping with suitable arbors even an acre of chayotes is considerable.” (fig. 18)³⁹



Figure 18. USDA-recommended mirliton trellis required heavy timbers not easily accessible or easily installed for growers in most of the agricultural South.

The chayote growers in New Orleans were inland, relatively protected from hurricanes. They used inexpensive materials and raised their crops on city lots measuring about 4,800 square feet, or one-tenth of an acre. For a small truck farmer, mirlitons could be raised with little expense and labor, but it was not a cash crop. The chayote suited the backyard gardener, and on that scale it would remain for decades in the United States.

Fairchild Belatedly Admits Defeat

The USDA had certainly tried to jump-start the new crop. By 1920, a list kept by the department indicated 1,275 people had received chayote seed, and thousands of leaflets on growing and cooking chayote had been distributed. The department had diligently imported hundreds of varieties, initiated test projects, and extensively tested growing techniques. But Fairchild was disappointed in the farmers’ results. “Many of them however lost their seeds—ate them or fed them to stock—and in

39. Hoover, *op. cit.*, *The Chayote: Its Culture and Uses*.

1929 when I tried to get some chayotes to grow on my own place in Florida it was with difficulty that I could find a few fruits with which to start.”⁴⁰

The department came closest to success in Florida, which was the epicenter of chayote testing. Col. E. C. Prentice experimented with them in Miami, and Scott U. Stambaugh of the Florida Department of Agriculture grew them under cloth shade to protect the high-altitude vine from overexposure to ultraviolet B radiation (UVB). But no printed accounts of the results of these experiments exist. In coastal DeLand Florida, several pioneers took up growing chayote. They shipped a carload to Philadelphia, where the dealer ended up dumping the whole shipment. “There is no demand for the thing. What should I do with it?” the grower queried.⁴¹

Fairchild attributed the chayote’s failures to the narrow breadth and reach of the USDA’s promotion compared to private-sector advertising campaigns. He opined that more private money had been spent advertising Postum, a roasted-grain coffee substitute, than the government spent introducing new foreign plants. “Perhaps people hesitate to buy a vegetable the name of which they don’t know how to pronounce,” he lamented.⁴²

Ultimately, the largest obstacle to the chayote’s becoming a US agricultural staple was the USDA’s obsession with the *perulero* chayotes, which prosper in Mesoamerica at 5,000 feet elevation and in climates that are cooler and less humid than in the American South. In montane cloud forests (like in Guatemala, where Popenoe discovered the *perulero*), precipitation is typically heavy, with between 2,000 and 4,000 millimeters of rain falling annually; plus, most montane cloud forests are subjected to constant cloud cover. At altitudes above 1,200 meters, the soil is often waterlogged, and many decomposers of plant matter, like termites and various fungi, are scarce—unlike in the American South, where decomposers are rampant. (fig. 19)

40. Fairchild, op. cit., “Early Experiences with Chayote.”

41. Ibid.

42. Ibid.



Figure 19. Permanent cloud cover in “cloud mountains” in Mesoamerica protects high-altitude chayote from ultraviolet B radiation (UVB).

The cloud cover serves to filter out UVB, which can damage chayote. Over millions of years, the chayote adapted to greater UVB and to heat by decreasing leaf size and thickening palisade cells. Eventually a coastal variety emerged that grew well at sea level, in tropical conditions, and with greater tolerance to UVB. It is reasonable to conclude that mirlitons morphologically similar to the Louisiana variety, that thrive at sea level, are also successfully grown in coastal areas of Brazil, Australia, Réunion Island, and the Philippines. French botanist Adviſse Desruisseaux recorded how the Réunion Island abolitionist Sully Jacques Brunet introduced chayotes from Brazil to Réunion Island in 1836. The Réunionese began to call it by its Brazilian name, *chouchou*.⁴³ (fig. 20, fig. 21, fig. 22, fig. 23)

43. F. C. Lidon and J. C. Ramalho, “Impact of UV-B irradiation on photosynthetic performance and chloroplast membrane components in *Oryza sativa* L.,” *Journal of Photochemistry and Photobiology B* (Sep 2, 2011): 457-66,

<https://www.ncbi.nlm.nih.gov/pubmed/21696979>; Probably the same *chouchou* variety was also introduced to Madagascar



Figure 20. Chayote are referred to as “chuchu” in Brazil (the fruit above is from Rio De Janeiro). This was the source of chayote seed imported into Réunion Island in the nineteenth century; the Réunionese translated it into French as “chouchou,” which is also a term of affection like “darling” or “pet.” Probably a coastal chayote grown near sea level, it resembles other coastal chayotes grown around the world, including Louisiana (large, elliptical-to-pyriform, light green).

near the publication of Desruisseaux’s book in Desruisseaux, op. cit.; Earliest mention of the root word, “choko,” in Latin America is noted in George Don, *A General History of the Dichlamydeous Plants: Comprising Complete Descriptions of the Different Orders . . . the Whole Arranged According to the Natural System*, (London: J.G. and F. Rivington, 1831–1838), <https://www.biodiversitylibrary.org/item/9905#page/45/mode/1up>.



Figure 21. Réunion mirliton variety descended from Brazilian chouchou.



Figure 22. Chokos (chayote) widely grown in Australia's coastal plains.



Figure 23. Philippine sayote (chayote) at market.

Why was the USDA so slow to appreciate the need for adaptive plant varieties? Perhaps because the science of imported plants was in its infancy. Roughly twenty years into the department's chayote project, in 1921, it received a missive from Harry Johnson, serving as USDA staff in Guatemala, who took altitude into consideration when he wrote about a promising new coastal variety there. "These chayotes come from the damp, hot coastal region, near Lake Izabal. They may do well in Florida and not damp-off so badly in the rains," Johnson wrote. Lake Izabal is at sea level, in contrast to almost every other (mountainous) region from which the USDA had sourced chayote seed. Regarding Johnson's discovery, the department noted that,

" . . . the fruit is medium-sized, smooth, light green, appressed-pyriform, with scattered spines which are more prominent toward the fissure. Rust-colored irregular cracks appear in the skin. A cooking test of one of the two fruits received showed the chayote to be of good quality, the flesh tending toward the mealiness characteristic of the best Guatemalan types."⁴⁴

44. *Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction During The Period from January 1 to March 31, 1921* (Government Printing Office, Washington, D.C., 1923); "52530 and 52531. From Jocolo, Izabal, Guatemala. Seeds presented by Harry Johnson. Received February 18. Quoted notes by Mr. Johnson"; "52804. Chayota edulis, Jacq. Cucurbitaceae. Chayote. (*Sechium edule* Swartz.) From Guatemala. Fruit presented by Harry Johnson. Received March 17,

But while Johnson had located a variety possibly suitable for American farmers, it didn't save the USDA's project. In 1947, Fairchild reluctantly concluded the efforts to make chayote a new US commercial crop were futile. He admitted that, "as often happens when species from high mountains—in this case from an altitude of 5,000 feet—are transplanted to sea level . . . they grew poorly, produced only a very few fruits and gradually disappeared." Additionally problematic, once a grower knew he was going to make a profit, others would begin producing fruit and underselling him. It was predictable that farmers, known for their conservative instincts, would be wary of entering a risky and potentially costly venture. "Who was going to start it?" asked Fairchild.⁴⁵

In the Aftermath of the USDA Chayote Project

The USDA never made a formal decision to end the chayote introduction project, but by 1930 the department ceased to actively recruit new varieties and stopped producing chayote at the Florida experiment stations. As its legacy, the project had brought the United States several new varieties, such as the large, ellipsoid, ivory-colored mirlitons that survived in Louisiana into the twenty-first century and that probably came from Puerto Rico. (fig. 24, fig. 25) It is probable that several Mesoamerican varieties of coastal chayote entered the US seed catalogue, like the Lake Izabal variety from Guatemala. Growers have reported that Louisiana State University botanists informally imported other varieties, independent of the USDA, and tested them in Lafayette, Louisiana; they may have entered the local gene pool through cross-pollination.⁴⁶

1921," https://www.ars-grin.gov/npgs/pi_books/scans/pi066.pdf. There were also reports of Costa Rican chayote in the "torrid lowlands."

45. Fairchild, op. cit., "Early Experiences with Chayote."

46. Op. cit., "52804. Chayota Edulis Jacq. Cucurbitaceae. Chayote. (Sechium edule Swartz.) From Guatemala. Fruit presented by Harry Johnson. Received March 17, 1921." Received February 18. Quoted notes by Mr. Johnson, https://www.ars-grin.gov/npgs/pi_books/scans/pi066.pdf; there were also reports of Costa Rican chayote in the torrid lowlands; on other varieties in Louisiana, author's interview with Lafayette, Louisiana, grower Fred Fournet regarding his Southeast Louisiana University neighbor, a botanist who grew several imported varieties.



CHAYOTE FRUIT, LONG WHITE VARIETY.

Figure 24. USDA imported white Puerto Rican chayote, pyriform with longitudinal furrows. May be the progenitor of the rare Louisiana white mirliton grown by only one person in The U.S., Ishrael Thibodeaux, from Opelousas, Louisiana, after whom is named the Ishrael Thibodeaux Louisiana Heirloom Mirliton variety.



Figure 25. Ishreal Thibodeaux Louisiana Heirloom Mirliton (ivory white) grown by the late Ishreal Thibodeaux in Opelousas, Louisiana. Less pyriform and more obovoid than the pyriform Puerto Rican white variety, but white is a dominant gene, so it was probably cross-bred with other coastal varieties.

Early beneficiaries of the USDA program continued to grow the deeply grooved varieties popularized at Brooksville. Florida journalists took note of chayote-growing in 1947 when the Lake City newspaper carried a lengthy article on Ben Groover, a former Georgian Commissioner of Agriculture, who was pictured beneath his overhead trellis in Lake City, a coastal plains city at 187 feet elevation. Groover had grown chayote since 1937, and he told the news outlet that a grower could expect to produce 20,000 pounds of fruit per acre. This is plausible, as an acre could accommodate 400 plants, and each plant could yield 50 fruit.⁴⁷ Groover

47. "Little Cultivated Chayote Grown by Lake Citian," (no publisher identified, 1947), Fairchild Collection and University of Florida Archives, <https://ufdc.ufl.edu/UF00046046/00001/1j>.

was quite a chayote enthusiast and arranged to reprint and distribute the USDA's *Circular 286* on growing the plant.⁴⁸ (fig. 26)



Figure 26. Ben Groover with his chayote in Florida, 1947. One of the few successful USDA chayote seed introductions.

In 1908 in the Bayou State, the Louisiana State University (LSU) experiment station tested USDA varieties for adaptability to the local climate and developed literature for cultivating them, even while they knew mirlitons had grown in Louisiana for years. One variety tested came from New Orleans, a white one came from Baton Rouge, and two came from Puerto Rico, the latter no doubt similar to those Puerto Rican varieties pictured in the 1901 USDA bulletin. Nothing ever came of this project; most of LSU's resources were dedicated to large cash crops like sugarcane, rice, and sweet potatoes.⁴⁹ Though the mirliton was a staple of New

48. *USDA Circular 286*, reprinted by Ben Groover, Fairchild Collection.

49. "22nd Annual Report of the Agricultural Experiment Stations of the Louisiana State University and Agricultural and Mechanical College," *The New Advocate Journal* (Baton Rouge, 1909); *Plant Immigrants* (Office of Foreign Seed and Plant

Orleans cuisine, it was barely noticed in the earliest part of the twentieth century by the two New Orleans newspapers, *The Times-Picayune* and the *States-Item*. There, mirlitons appeared in early print advertisements for “mirliton pirogues” as bar fare, in grocery store advertisements, and in a 1918 article about the “Housewives League” promoting mirlitons. As poor-people’s foods tend to do, mirlitons eventually penetrated into the upper-class dining rooms of New Orleans by way of the African American cooks that wealthier families employed. In so doing, mirlitons moved from the French, African American, and Creole communities into the English-speaking “American” quarters. It was not until 1915 that *The Times Picayune* listed the price of mirlitons and, shortly thereafter, first carried an advertisement with the Steckler engraving labeled as “vegetable pear.”⁵⁰

In September 1941, *States-Item* columnist Herman Deutsch wrote about local mirliton grower John Burns, describing him as an Orleanian who “creates beauty in a mirliton arbor.”⁵¹ The Burns article signaled a shift for local newspapers whose coverage moved from ignoring the mirliton to regularly covering mirliton growers. After the United States entered World War II, the New Orleans print media began running regular stories on local growers; these were probably motivated by the wartime “Victory Garden” program led by the USDA’s Secretary of Agriculture. Victory gardens became a popular pursuit—twenty million American home gardeners planted one by the end of the war.

A 1943 article in *The Times-Picayune* about Victory Gardens framed the mirliton as the “answer to gardener plea”; the story featured the Chopin family, owners of a prominent St. Charles Avenue flower shop where the family had grown mirlitons for twenty years. It carried a photograph of daughter Mary Chopin picking mirlitons off the vine, and it noted most housewives hadn’t heard of mirlitons.⁵² That was probably true for housewives in the white upper class of New Orleans,

Introduction, Washington, D.C, 1921), “Mr. E. L. Lord, Ruston, Louisiana writes one vine produced 1 ½ bushels this season which is double previous, best at this latitude. Large green variety. Mr. E. L. Lord, January 10, 1921,”

https://archive.org/details/cat30850057_177/page/n9.

50. *The Times-Picayune*, April 19, 1987, 27, Newsbank; “Creamy Mirliton Soup Wins,” *The Times-Picayune*, April 18, 1987, 3, Newsbank; “Housewives Praise Vegetable Pear, Ideal Garden Product Says League,” *The Times-Picayune*, December 1, 1918, 21, Newsbank; “Rabbits, 'Coons, 'Possums Are Offered At Markets,” *The Times-Picayune*, December 3, 1921, 17, Newsbank.

51. Herman Deutsch, “Thing of Beauty,” *New Orleans Item*, published as *The Times-Picayune*, September 18, 1941, 8, Newsbank.

52. “Mirliton is Answer to Gardener Plea,” *The Times-Picayune*, November 21, 1943, Newsbank.

but at that time mirlitons were widely grown and eaten by Blacks and Creoles of color—communities invisible to the white media. Indeed, during a century of reporting on mirliton growing in New Orleans, *The Times-Picayune* didn't feature a single Black subject.

The Times-Picayune began providing useful advice, mentioning in its "Home Gardens" column that aspiring mirliton growers should buy seed from other growers, from seed stores, and from the Louisiana Department of Agriculture's *Market Bulletin*, a free monthly publication that networked small agriculturalists. This was sound advice, as it encouraged gardeners to plant only Louisiana-grown mirliton as seed, but it was a lesson that would eventually be forgotten by the newspaper.⁵³

By 1956, the *States-Item* columnist Herman Deutsch, a mirliton grower himself, declared the mirliton to be a "Louisiana tradition" and "one of the noblest gifts the vegetable kingdom can offer man."⁵⁴ Perhaps the dramatic change in attitude owed to who was doing the writing, New Orleans-raised journalists or newer migrants to the city. Beginning in 1954, the newspaper documented the story of a remarkable mirliton grower, Herbert Noel "Pops" Pettigrew, who had converted his double lot at 415 Arabella Street into a sprawling mirliton garden comprised of a sixty-by-twenty-foot trellis covering 7,200 square feet. Pettigrew produced thousands of mirlitons and donated the proceeds to charity. He was so beloved a community member that the Baptist Theological Seminary honored him for his charity, and he won *The Times-Picayune*'s "Alias Santa Claus" award by a landslide. In 1956, writer James Hearty penned a profile of Pettigrew titled "Reaping bountiful harvest," in which he noted that Pettigrew, widowed since 1953, had turned to mirliton growing to soothe the loss of his wife.⁵⁵

Followed over a number of years by Maude O'Bryan in her "Up and Down the Street" column, Pettigrew's formidable mirliton project appeared to confirm Fairchild's fear that the mirliton could become the victim of its own success:

53. On market bulletin, *The Times-Picayune*, April 4, 1954, 55, Newsbank; on Napoleon Street, *New Orleans States-Item* as *The Times-Picayune*, March 18, 1952, 29, Newsbank.

54. "Mirliton is a Louisiana Tradition," *The Times-Picayune*, March 8, 1953, 78, Newsbank; Herman Deutsch, "Camelia Arbor," *The Times-Picayune*, May 10, 1956, 11, Newsbank; James Hearty, *New Orleans States-Item* as *The Times-Picayune*, November 9, 1956, Newsbank.

55. *Ibid.*; *The Times-Picayune*, February 26, 1955, 24, Newsbank, Pettigrew has sprouts of new variety.

O'Bryan documented Pettigrew's falling victim to his mirlitons' bounty.⁵⁶ He started out selling two thousand plants for one dollar each. Within a few years, he was giving away for free one thousand mirliton plants. His seed farm was so bountiful that, when he died in 1963, people seeking seeds panicked that their source had disappeared (fig. 27). But soon other mirliton growers filled his role, and vendors were selling sprouted seeds for twenty-five cents. By the 1980s, mirlitons were so abundant that in most areas of the city people could count on a neighbor to provide free seed. More attention was paid to mirliton cuisine during this era as well; in particular, the newspapers printed many mirliton recipes between 1937 and 1980.



Figure 27. Herbert Noel "Pops" Pettigrew tending his tomatoes at his extensive mirliton grow lot at 415 Arabella Street, New Orleans.

56. Maude O'Bryan, "Up and Down," *The Times-Picayune*, January 17, 1958, Newsbank; Maude O'Bryan, "1,000 Mirliton Plants Given Away Free," *The Times-Picayune*, February 2, 1958, Newsbank; Maude O'Bryan, "Up and Down," *The Times-Picayune*, September 2, 1958, Newsbank; "Gentilly Garden Club," *The Times-Picayune*, November 8, 1958, Newsbank; Maude O'Bryan, "Up and Down," *The Times-Picayune*, February 6, 1959, Newsbank; Maude O'Bryan, "Up and Down," *The Times-Picayune*, February 28, 1958, Newsbank; Maude O'Bryan, "Up and Down," *The Times-Picayune*, March 18, 1963, Newsbank; Maude O'Bryan, "Up and Down," *The Times-Picayune*, March 27, 1963, Newsbank.

Rachel Daniel, who was the food and garden editor at *The Times-Picayune*, started her job in 1956 with very little knowledge about mirliton culture. Her first forays into dispensing advice unfortunately included all the myths about mirlitons.⁵⁷ But by 1957, *The Times-Picayune* published an article about the Louisiana Agricultural Extension's *Circular 211*, which explained proper mirliton growing techniques, including soil mixture, fertilization, and trellising.⁵⁸

Daniel featured stories on local growers from 1957 to 1985, including Dr. Anthony DeLuca and Mr. and Mrs. Anthony J. Margiotta in Gentilly; Joseph Kling on Piety Street; John Marie in the Irish Channel; and Clarence A. Landry in suburban Metairie.⁵⁹ The photographs that accompanied these stories showed a New Orleans mirliton variety that had a fruit morphology identical to contemporary Louisiana mirlitons: large, green, obovoid to elliptical in shape, with five deep furrows. This is the same grooved variety that appeared in the photos from the 1916 USDA Brooksville experiment station, and in the 1947 Ben Groover photographs. (fig. 28, fig. 29, fig. 30, fig. 31, fig. 32, fig. 33, fig. 34, fig. 35) It is impossible to determine when this variety entered the growing culture since only a genetic analysis could provide a certain judgement, but clearly at some point the New Orleans growers had turned away from the small, relatively groove-free Steckler Seed Company variety.⁶⁰

57. Rachel Daniel, "Vegetable pears grow in regular soil," *The Times-Picayune*, June 10, 1956, Newsbank.

58. John Cox, "Values Vegetable Pear for Home Garden Plots," *The Times-Picayune*, December 29, 1957, Newsbank.

59. Landry photograph, *The Times-Picayune*, November 16, 1975, Newsbank; DeLuca, *The Times-Picayune*, November 11, 1975, Newsbank; Rachel Daniel, "Early Summer Mirliton Crop Results from Mild Winter," *The Times-Picayune*, July 6, 1975, Newsbank; Rachel Daniel, "Mirlitons Arrive Early When Vines Survive Frost," *The Times-Picayune*, May 12, 1974, Newsbank; Joseph Kling, *The Times-Picayune*, May 12, 1975, Newsbank.

60. Westwego, *The Times-Picayune*, May 23, 1982, Newsbank.



Figure 28. James Cobb Louisiana Heirloom Mirliton variety, Houma, Louisiana.



Figure 29. Cobb Family children with fall mirlitons, 2008.



Figure 30. Mister Rock Panvelle Louisiana Mirliton Heirloom variety, Thibodeaux, Louisiana.



Figure 31. James Boutte Louisiana Heirloom Mirliton variety, New Iberia, Louisiana.



Figure 32. Joseph Boudreaux Louisiana Heirloom Mirliton variety, Broussard, Louisiana.



Figure 33. Miss Olive Louisiana Heirloom Mirliton variety, New Orleans, Louisiana.



Figure 34. (right) Elwood Schexnayder Louisiana Heirloom Mirliton variety, St. Rose, Louisiana.



Figure 35. Grocery-store-purchased, imported chayote from Mexico or Guatemala, 2018. Almost all are perulero type: globular, small, smooth skin, no furrows.

As the mirliton passed from French descendants to the English-speaking community in New Orleans, there were continuing efforts to rebrand mirlitons as anglicized “vegetable pears.” Indeed, *The Times-Picayune* periodically published discussion on precisely what a mirliton was and how it should be pronounced. “Mirliton” was the common term used by the Creoles in New Orleans; the Baratarians of French descent settled south of New Orleans; and the Acadians in southwestern Louisiana. “Mirliton” is still in widespread use today in French-influenced regions, where it is often pronounced nonphonetically as “mel-lee-tawn.” But the early *Times-Picayune* was owned by English-speaking elites, and as late as November 1980 the paper was still entertaining debate about what exactly mirlitons were and how to properly pronounce the name. Columnist Maude O’ Bryan complained that “even in New Orleans not one person in ten pronounce or spell mirliton correctly.”⁶¹

Daniel cleared up much of this confusion with her coverage of growers, which often included their advice on cultivation techniques, but those bits of knowledge vanished from the newspaper when she retired in 1982. She wrote her final story on a grower in Westwego; after that, the papers never again published a single article about local mirliton growers or proper variety selection and cultivation. For years, *The Times-Picayune* neglected to mention that only the Louisiana heirloom mirliton variety was ideally suited for the coastal plains, with its low altitude and subtropical climate, including in Florida, Alabama, Mississippi and Texas. (fig. 36, fig. 37, fig. 38, fig. 39) They fail to distribute this information today, and they still recommend growers use imported mirlitons purchased from the supermarket as seed.

61. Maude O’ Bryan, *The Times-Picayune*, October 23, 1980, Newsbank.



Figure 36. Brazilian chuchu (chayote) frequently grown in coastal areas.



Figure 37. Brazilian chuchu (chayote) from Sao Paolo.



Figure 38. Australian choko (chayote) grower with fruiting vine in Warwick, subtropical climate at 1,542 feet.



Figure 39. Joseph Boudreaux with his mirliton variety, almost identical to Australian choko, in Broussard, Louisiana.

This was (and is) problematic because chayotes imported to grocery stores for sale as produce would not flower and fruit in Louisiana when planted as seed. They were high-altitude varieties that could not withstand the UVB or the heat of Louisiana's subtropical climate, or its largely sea-level terrain.⁶² Moreover, even if the chayotes imported from Costa Rica grew, there was a real danger they would introduce devastating new diseases such as chayote mosaic virus (ChMV), for which there was no preventative or cure.⁶³

Discovered in Costa Rica in 2011, the mosaic virus has recently ravaged chayote growing in Taiwan, Brazil, India, and other countries. In the early decades of the twentieth century, the USDA debated the potential threat that imported plants posed to American crops; it temporarily halted plant imports and established disease-screening and pest-screening protocols. Chayote mosaic virus had never been detected in America, but the disease is transmitted in the chayote through both cuttings and the fruit itself (it's a seed-transmissible disease). Recommending growers use imported chayote as seed was tantamount to planting an agricultural time bomb in America.⁶⁴

Many mirliton enthusiasts had hoped that the annual Mirliton Festival in New Orleans' Bywater neighborhood, started in 1989, would increase local interest in the fruit and its culinary import, but the festival did not take growing local varieties very seriously and sold only imported mirlitons for years. Longtime Bywater resident Mary Cooper was among the festival's founders and recalled that the first

62. Fairchild, op. cit., "Early experiences with Chayote."

63. The perils of plant imports and the USDA debate is covered by Harris, op. cit., *Fruits of Eden*.

64. Juan J. Bernal, Ignacio Jiménez, Manuel Moreno, Melanie Hord, Carmen Rivera, Renate Koenig, and Emilio Rodríguez-Cerezo, "Chayote Mosaic Virus, a New Tymovirus Infecting Cucurbitaceae," *Phytopathology*, vol. 90, no. 10, October 2008, <https://apsjournals.apsnet.org/doi/pdf/10.1094/PHTO.2000.90.10.1098>; Sangeetha B., Malathi V.G., Alice D., Suganthi M., and Renukadevi P., "A distinct seed-transmissible strain of tomato leaf curl New Delhi virus infecting Chayote plants in India," *Virus Research* (2018), <https://doi.org/10.1016/j.virusres.2018.10.009>; on ChMv being borne in chayote fruit, see email, Sangeetha Agri (Department of Plant Pathology, Tamil Nadu Agricultural University) to Lance Hill, February 2, 2020; Tsai, Shanhua, Tainan, C. J. Hu, D. P. Shung, Yuan, R. O. C., Jian, Hualien, L. M. Lee, J. T. Wang, Lawrence Kenyon, "First Report of Squash leaf curl Philippines virus Infecting Chayote (*Sechium edule*) in Taiwan," *Plant Disease*, September, 2011, DOI: 10.1094/PDIS-04-11-0282; Bilog, A. B., "Incidence and Severity of Chayote Mosaic Tymovirus Infection on Chayote in Pual, Atok, Benguet," unpublished undergraduate thesis, 2011, Benguet State University, La Trinidad, Benguet; Rhonda M. Oloan and Divina C. Jose, "Survey, Germplasm Collection, Characterization and Evaluation of Chayote (*Sechium edule*) Strains in the Highlands," [http://bpi.da.gov.ph/bpi/images/Picture/CHAYOTE%202011%20\(1\).pdf](http://bpi.da.gov.ph/bpi/images/Picture/CHAYOTE%202011%20(1).pdf).

festival began “as kind of a joke.” According to Mary, the thinking was, “They have festivals in Louisiana for everything else, why not mirlitons?” (fig. 40)⁶⁵

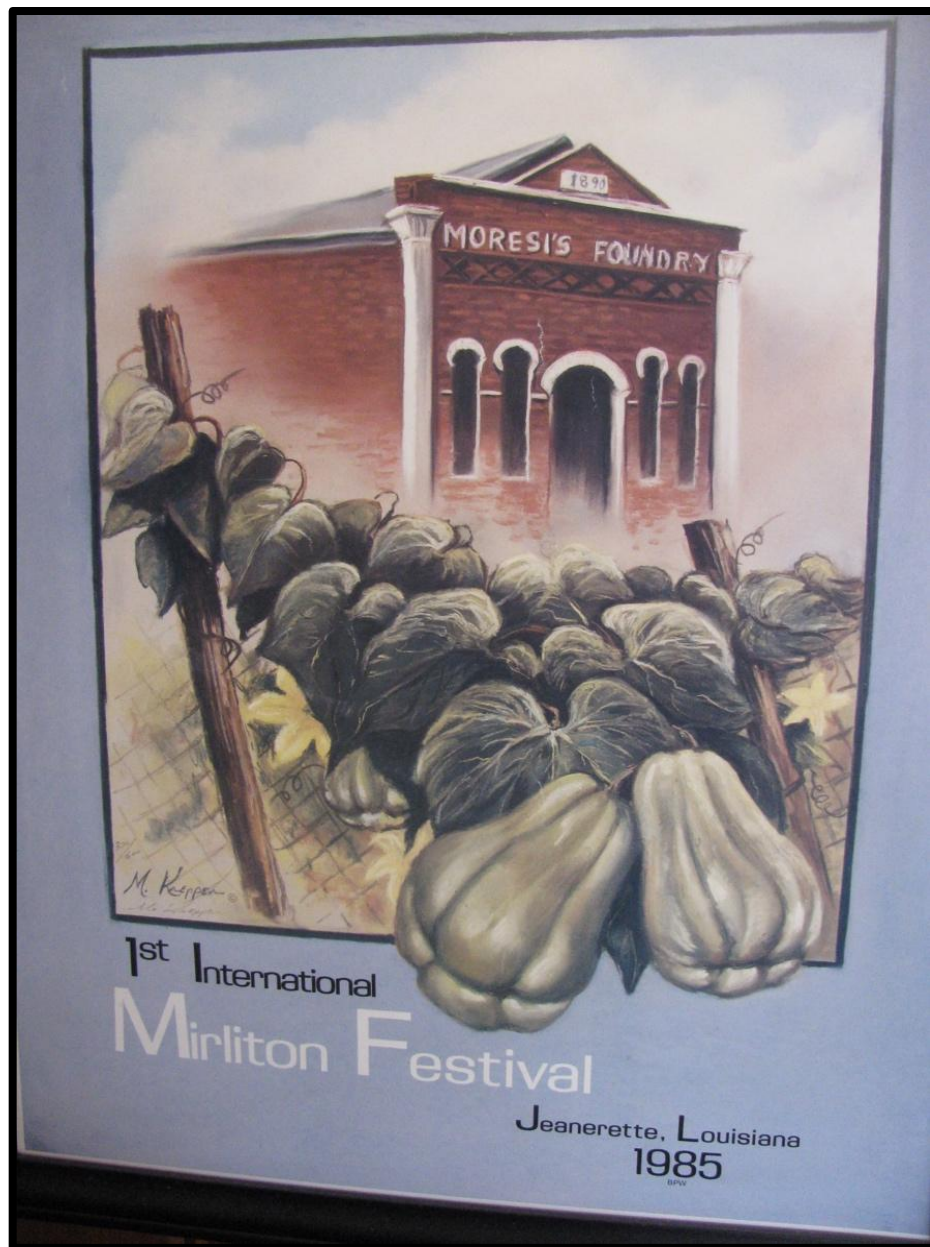


Figure 40. Marian Krepper poster for the first International Mirliton Festival, Jeanerette, Louisiana, 1985. Good example of typical Louisiana Heirloom variety: large, deep furrows, obovoid to elliptical, smooth skin. In contrast, in its early years, New Orleans Mirliton Festival posters featured images of smooth mirlitons, the imported sort purchased in grocery stores.

65. “Bywater Mirliton Festival Celebrates 20 years,” *The Times-Picayune*, November 5, 2009, Newsbank,

https://www.nola.com/entertainment_life/festivals/article_e34bcc5-a0f2-5c89-bb9b-01d809bdddca.html. There were other

mirliton festivals in Louisiana that graphically featured authentic Louisiana heirloom mirlitons, such as the 1985 Jeanerette Mirliton Festival.

Other countries, meanwhile, had amassed extensive scientific knowledge about the hundreds of varieties of chayote and their differing disease resistance and adaptability to altitude. Costa Rica, Mexico and India pioneered the creation of chayote germplasms in which they collected and maintained chayote varieties to preserve genetic diversity (in the form of plants), and for breeding and other research uses. While chayote *seed* could not be preserved, living *plants* could be.⁶⁶ Today, scientists have developed DNA analysis, tissue preservation, and shoot cloning so that germplasms no longer need to be living plants. Additionally, researchers have discovered mineral “fingerprints” of chayote that can identify the geographic origins of chayote varieties based on common trace and major nutrient

66. Raphael Lira-Saade, *Chayote Sechium edule (Jacq.) Sw.*: 31–32, 36,

[https://www.bioversityinternational.org/fileadmin/migrated/uploads/tx_news/Chayote_Sechium_edule_Jacq._Sw._355.p](https://www.bioversityinternational.org/fileadmin/migrated/uploads/tx_news/Chayote_Sechium_edule_Jacq._Sw._355.pdf)

[df](https://www.bioversityinternational.org/fileadmin/migrated/uploads/tx_news/Chayote_Sechium_edule_Jacq._Sw._355.pdf); Neupane, F., Sharma, M., & Neupane, K., “Incidence of Insect Pests on Chayote, *Sechium edule* (Swartz.) in Nepal,” *Journal of the Institute of Agriculture and Animal Science*, 2006, 27: 161-164,

<https://www.nepjol.info/index.php/JIAAS/article/view/711>; Veerendra, Kumar Verma, Avinash Pandey, Anjani Kumar Jha, and

S. V. Ngachan, “Genetic Characterization of Chayote [*Sechium edule* (Jacq.) Swartz.] Landraces of North Eastern Hills of India and Conservation Measure,” *Physiology and Molecular Biology of Plants*, October, 2017, 23(4): 911–24,

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5671460/>; Jyothi Ramesh Jain, Bibechana Timsina, Kumudini Belur Satyan, and

Shiragambi Hanumantagouda Manohar, “A Comparative Assessment of Morphological and Molecular Diversity Among *Sechium edule* (Jacq.) Sw. Accessions in India,” *3 Biotech*, June 2017, 7(2), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5449279/>;

Ryoko Machida-Hirano, Moisés Cortés-Cruz, Blanca Amalia Amaro González, Jorge Cadena Íñiguez, Kazuto Shirata, and Kazuo N. Watanabe, “Isolation and Characterization of Novel Microsatellite Markers in Chayote [*Sechium edule* (Jacq.) Sw.,” *American Journal of Plant Sciences*, August, 2015, 6: 2033-41,

[https://pdfs.semanticscholar.org/16d6/d7ca3ba3f0317d5ebbbc3c8e092111748d9f.pdf?_ga=2.172701671.599127164.1575040](https://pdfs.semanticscholar.org/16d6/d7ca3ba3f0317d5ebbbc3c8e092111748d9f.pdf?_ga=2.172701671.599127164.1575040639-1099760269.1575040639)

[639-1099760269.1575040639](https://pdfs.semanticscholar.org/16d6/d7ca3ba3f0317d5ebbbc3c8e092111748d9f.pdf?_ga=2.172701671.599127164.1575040639-1099760269.1575040639); Rhonda M. Oloan and Divina C. Jose, op. cit., Philippine germplasm.

element.⁶⁷ Of course, as Fairchild had realized decades before, these high-altitude mirlitons would not grow well at sea level.⁶⁸ (fig. 41)

The twenty-five-year project to make chayote an American staple had failed. There are many reasons for this. To summarize, first, the desire for a cosmetically desirable vegetable sidetracked the USDA from its goal of introducing a viable new food source to the American grower. The ideal fruit existed, but it would not grow on most US farmland. Second, chayote did not conform to American tastes and culinary traditions. It was not sweet or fat. Third, chayote, an arbor vine, was too cumbersome and expensive for most farmers. Its profound productivity made overproduction an obvious risk. The first-year crop could be profitable, but once the vegetable became popular, there would be nothing preventing other farmers

67. Melisa J. Hidalgo, Diana C. Fechnera, Eduardo J. Marchevsky, and Roberto G. Pellerano, "Determining the Geographical Origin of *Sechium edule* Fruits by Multielement Analysis and Advanced Chemometric Techniques,"

Food Chemistry, no. 210, November 1, 2016: 228-34, <https://www.ncbi.nlm.nih.gov/pubmed/27211642>; Víctor Manuel Cisneros Solano, Jorge Cadena Iñiguez, Carlos Hugo Avendaño Arrazate, Ma. de Lourdes and C. Arévalo Galarza, op. cit., *El Chayote 2*; Ryoko Machida-Hirano, Moisés Cortés-Cruz, Blanca Amalia Amaro González, Jorge Cadena Iñiguez, Kazuto Shirata, Kazuo N. Watanabe, op. cit., "Characterization of Novel Microsatellite Markers in Chayote [*Sechium edule* (Jacq.) Sw.];" J. R. Jain, B. Timsina, K. B. Satyan, and S. H. Manohar, "A comparative assessment of morphological and molecular diversity among *Sechium edule* (Jacq.) Sw. Accessions in India," *3Biotech*, June, 2017, 7(2): 106,

<https://www.ncbi.nlm.nih.gov/pubmed/28560645>; Ana Abdelnour-Esquivé and Oscar Rocha, "Genetic Characterization of a Collection of Chayote, *Sechium edule* (Jacq.) Swartz, in Costa Rica by Using Isozyme Markers," *Genetic Resources and Crop Evolution*, January, 2008, 55(1),

https://www.researchgate.net/publication/226346509_Genetic_characterization_of_a_collection_of_chayote_Sechium_edule_Jacq_Swartz_in_Costa_Rica_by_using_izozyme_markers; Osvaldo Castellanos-Hernandez, Gustavo Acevedo-Hernandez, Martha Isabel, Torres-Morán, Melesio Gutiérrez-Lomelí, Domingo Ruvalcaba-Ruiz, Florentina Zurita and Araceli Rodríguez-Sahagún, "Genetic Fidelity Assessment in Plants of *Sechium edule* Regenerated via Organogenesis," *South African Journal of Botany*, no. 112, September, 2017: 118-22, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5449279/>.

68. As late as 2017 *The Times-Picayune* was still instructing growers to plant grocery-store-imported chayote to plant as seed; for, "If needed, you can try planting mature mirlitons purchased at supermarkets," see Dan Gill, "Fifteen Summer Vegetables," *The Times-Picayune*, Newsbank, https://www.nola.com/entertainment_life/home_garden/article_a19f855a-41e5-5173-8a7f-576c8248244b.html. There was one exception to this absence of grower coverage, when a food editor reported on the Mirliton.Org project: Walker, "Mirliton Man - Fan of iconic New Orleans Vegetable is Planting Seeds of Recovery," *The Times-Picayune*. In 2016, LSU assigned Dr. Joe Willis as the new extension agent in New Orleans. Willis had a background in plant genetics and understood varietal differences. See: Dr. Joe Willis, "Mirliton Update," *GNO Gardening*, September, 10, 2018, <https://www.lsuagcenter.com/~media/system/8/e/e/a/8eea62d58b5bc159255b0640947a1a83/september%202018pdf.pdf>.

from growing the crop and dropping prices; thus underselling the original grower. The way in which “Pops” Pettigrew was reduced to giving away seed was a harbinger of danger for other farmers.”⁶⁹



Figure 41. The Sikkim, India germplasm of eighty-one Indian chayote varieties. Wide variation in size, shape, color, and skin type.

69. Fairchild, op. cit., “Early Experiences with Chayote.”

The mirliton has a place in American agriculture, but probably as a backyard vegetable rather than as a commercial crop. Among the ways the mirliton suits the small-scale grower are that it requires little land; it can grow on existing structures such as chain link fences and bushes; it is seasonal and highly perishable when unrefrigerated; it requires large amounts of water at times; and it takes little effort to grow. It is a lazy person's plant that doesn't even require cultivation or stooping to harvest. In New Orleans, it used to help complete the holy trinity of backyard gardening: a pecan tree, a fig tree, and a mirliton vine. But, over time, the generations have not transmitted these traditions. The quest for cosmetically uniform yards has all but eliminated pecan and fig trees because of their leafy debris, and wooden privacy fences have replaced chain link fences, denying mirlitons a handy trellis.

Probably the single greatest obstacle to the chayote's US introduction was the method by which horticultural knowledge is transmitted—or not transmitted—intergenerationally. The USDA could efficiently identify and import new chayote varieties, test those varieties, and distribute cultivation instructions, but the information was tied to the cumbersome technology of print. It is amazing how much more was forgotten than was learned. Few state agricultural agencies retained and promulgated the USDA's excellent and comprehensive bulletins; thus it was left to ordinary people to pass on their mirliton knowledge to the next generation. But as younger generations moved away from the alluvial soils of their parents' homes to the river-sand-filled backyards and sandy pinewoods of the suburbs, the soil—the very anchor of the plant—changed. Many a mirliton grower puzzled at how their children and grandchildren could not grow mirlitons. Not only was knowledge not being passed on, but it truly wasn't your grandparent's mirliton anymore. The soil had changed and, in many cases, so had the available planting variety.

Technology has solved some of these problems. Knowledge is now stored and easily accessed through the internet and its various digital archives. The new challenge for the chayote is global climate change, which has reduced the regions conducive to growing them. Louisiana has suffered enormous crop losses due to coastal erosion, flooding, drought, intensive precipitation events, and early frosts.⁷⁰

70. Andrey K. Savtchenko, George Huffman, and Bruce Vollmer, "Assessment of Precipitation Anomalies in California Using TRMM and MERRA Data," <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20190032009.pdf>; Carlie Kollath Wells, "Low

Over the past decade, most of the handful of large-scale Louisiana mirliton growers have died or grown too old or infirm to carry on their work, and their heirs have not continued it. Louisiana is losing many of its local varieties.

Horticulture science is more sophisticated now through DNA analysis and tissue preservation, which preserves genetic diversity and holds promise for better plant resistance to disease and insects. Fortunately, the recent migrations of people from Latin American countries with strong chayote growing and culinary traditions have created new opportunities for backyard growing. A chayote vine growing in the backyard garden was commonplace in Mexico and Central America. Equipped with knowledge for growing appropriate varieties in their new homeland, as well as access to information technologies for retaining and popularizing agricultural wisdom, these new immigrants may become the new stewards of the American chayote. (fig. 42, fig. 43)

Correspond with the author at lance@mirliton.org.

Temperatures Wednesday Break Records In Southeast Louisiana," *The New Orleans Advocate*, November 13, 2019,

https://www.nola.com/news/weather/article_4181ef08-0617-11ea-b681-43caf94f2042.html.



Figure 42. Plant explorer David Fairchild in Ceylon preparing to drink coconut milk in 1926.



Figure 43. 1966 Haitian postage stamp paired the humble mirliton with Revolutionary leader Dessalines, underscoring the high rank the mirliton holds culturally.

Acknowledgements

I want to thank all the veteran mirliton growers in Louisiana who have shared their knowledge with me: Rock Panvelle, James and Kevin Boutte, Ervin Crawford, Ishreal Thibodeaux, Joseph Boudreaux, Fred Fournet, Enot Guillot, Vivian Danos Arceneaux (who taught me many of the secrets of mirliton cultivation), and James Cobb. I greatly appreciate the generous assistance in finding archival materials from Sara Lee, National Agricultural Library; Dr. Brett Jestrow and Nancy Korber, The Special Collections of the Montgomery Library at the Fairchild Botanical Gardens; Mary Lou Eichhorn, Williams Research Center of The Historic New Orleans Collection; the staff of Rare Books and Manuscripts at Tulane University; and the Louisiana State Archives and their complete collection of the *Market Bulletin* and State Fair publications. I am grateful for my friends and mirliton colleagues Paul D'Anna (who travelled with me to many grower sites), David Hubbell, and Leo Jones. I am especially appreciative of support from the Goldring

Family Foundation. I am indebted to my article editor, southern cuisine expert Sara Roahen, for rendering this work much clearer and more eloquent than what I first presented to her.

Illustration Credits

Figure 1. James and Kevin Boutte, New Iberia, Louisiana. Photo page at www.mirliton.org, hereafter referenced as “Mirliton.Org.”

Figure 2. *Steckler's Seed Catalogue and Garden Manual for the Southern States: 1904*. New Orleans: 1901, 182. The Biodiversity Library lists its publication as 1904 but it appeared in catalogue hard copy collections in 1901. <https://www.biodiversitylibrary.org/item/149662#page/186/mode/1up>.

Figure 3. Courtesy The Clarence John Laughlin Archive at The Historic New Orleans Collection, Acc. no. 1981.247.5.16.

Figure 4. Courtesy Mirliton.Org.

Figure 5. Orator Fuller Cook, G. N. Collins, *Economic Plants of Puerto Rico* (Washington, D.C.: Government Printing Office, 1903), <https://archive.org/details/economicplantsof00cook/page/n5>.

Figure 6. L. G. Hoover, *The Chayote: Its Culture and Uses*, Circular 286, September 28, 1923 (United States Department of Agriculture, Washington, D.C.).

Figure 7. Courtesy www.clicanoo.re, accessed February 20, 2020, https://www.clicanoo.re/Societe/Article/2017/01/11/Lage-dor-de-la-paille-dItalie_456371.

Figure 8. Courtesy Mirliton.Org.

Figure 9. Courtesy Montgomery Library, Fairchild Tropical Botanic Garden, Coral Gables (hereafter referenced as “Fairchild Collection”).

Figure 10. Courtesy Fairchild Collection.

Figure 11. Courtesy Fairchild Collection.

Figure 12. Courtesy Mirliton.Org.

Figure 13. Courtesy USDA Special Collections.

Figure 14. Courtesy Mirliton.Org.

Figure 15. (Popenoe assort) Negative no. 20,016, Guatemala, September 16, 1916, U.S. National Arboretum, John L. Creech Files. Special Collections, USDA National Agricultural Library (hereafter referenced as USDA Special Collections).

Figure 16. Courtesy USDA Special Collections.

Figure 17. Courtesy Fatfree.com.

Figure 18. Courtesy Fairchild Collection.

Figure 19. Courtesy Agroproductos Del Moral SPR De RL.

Figure 20. *Entrepost*, March 29, 2017,
<https://www.jornalentreposto.com.br/noticias/2792-producao-do-chuchu-comeca-para-valer-no-mes-de-abril>.

Figure 21. Wiktionnaire, accessed February 20, 2020,
https://fr.wiktionary.org/wiki/chouchou#/media/Fichier:Sechium_edule_dsc03481.jpg.

Figure 22. Courtesy *Brisbane News*.

Figure 23. *Minda News*, June 22, 2019,
<https://www.mindanews.com/photo-of-the-day/2019/06/8-pesos-a-kilo/>.

Figure 24. Orator Fuller Cook, *The Chayote: A Tropical Vegetable* (Washington, D.C.: Government Printing Office, 1901),
<https://archive.org/details/chayotetropicalv00cook/page/n8USDA>.

Figure 25. Courtesy Mirliton.Org.

Figure 26. Courtesy University of Florida Archives.

Figure 27. Courtesy Tulane University Special Collections.

Figures 28 and 29. Courtesy Mirliton.Org and James Cobb.

Figure 30. Courtesy Mirliton.Org.

Figure 31. Courtesy Mirliton.Org.

Figure 32. Courtesy Mirliton.Org.

Figure 33. Courtesy Mirliton.Org.

Figure 34. Courtesy Mirliton.Org.

Figure 35. Courtesy David Hubbell.

Figure 36. Cooperativa dos Produtores de Chuchu de Amparo, Sao Paolo,
<https://www.apontador.com.br>.

Figure 37. *Entrepost*, March 29, 2017,
<https://www.jornalentreposto.com.br/noticias/2792-producao-do-chuchu-comeca-para-valer-no-mes-de-abrileca-para-valer-no-mes-de-abril>.

Figure 38. *Warwick Daily News*, December 27, 2010,
<https://www.warwickdailynews.com.au/news/les-frendon-choko-grower-large-crop/730480/>.

Figure 39. Courtesy Mirliton.Org.

Figure 40. Courtesy Kevin Boutte.

Figure 41. Courtesy ©'ICAR-NOFRI, Tadong, Gangtok, Sikkim, India.'

Figure 42. This image is in the public domain.

Figure 43. Courtesy Mirliton.Org.