



CHAPALOTE CORN

*The oldest corn in North
America pops back up.*

Article & Photo by Gary Paul Nabhan

IT IS A TRULY REMARKABLE IRONY that most Americans have never even heard of the name of the oldest heirloom maize variety on the continent, *Chapalote*, let alone tasted its earthy, flinty cornmeal. Corn farming in the foodscapes within the present-day United States did not begin in the Midwestern or Southern “Corn Belts,” nor along the East Coast where Pilgrims first encountered this new staple crop. Instead, the oldest evidence of maize cultivation north of the Tropic of Cancer comes from a desert valley known as the Tucson Basin in southern Arizona, and near the Zuni and Hopi villages of northern Arizona.

Prehistoric cobs of a corn that is equivalent or close kin to today’s chocolate-brown kernels of Chapalote date to 4100 to 4200 years ago—far older than any place else north of Central Mexico. Furthermore, Chapalote was prehistorically grown in fields along some of the oldest and most extensive irrigation canals anywhere in the New World. It offers us a tangible taste of the history of one of the world’s most important crops for gardens, farms and food industries of all kinds.

A DISTINCTIVE CORN

Although once thought to be extinct north of the U.S./Mexico border, the country's oldest "popcorn" has popped back into view, thanks to a number of farmers and organizations collaborating with Native Seeds/SEARCH on a heritage grain recovery project sponsored by the USDA's Western SARE program. For the first time ever in the United States, Chapalote is being commercially grown, and prominently featured in local food-oriented restaurants in Arizona, albeit on a modest scale. The heritage grain collaborative hopes to gradually increase foundation seedstock to provide farmers with enough Chapalote to produce sufficient yields so that chefs in its region of origin can use the heritage grain for polentas, cornbreads, pinoles, atoles and tortillas year-round. Already boarded onto the Slow Food Ark of Taste as an endangered place-based food that can be grown and prepared sustainably, Chapalote is already on the road to recovery.

But just what do we know about America's most ancient heirloom maize variety? It was not adequately described in scientific literature until 60 years ago, when three corn experts associated with Harvard and the Rockefeller Foundation singled it out for further study:

"Chapalote is one of the most distinctive races of maize in Mexico. It is primitive in being not only a popcorn but also a weak pod corn. One of the most distinctive characteristics of Chapalote is its brown pericarp [kernel] color."

Led by the great Mexican ethnobotanist Efrain Hernandez-Xolocotzi, they found it to be restricted to the coastal lowlands of Northwestern Mexico, just south of Arizona, where Uto-Aztec tribes related to those in the U.S. Southwest continued to grow it into the drought years following the Second World War. Hernandez-Xolocotzi found that Chapalote could perform well even during relatively dry years, because it was early maturing, and needed little supplemental irrigation if planted with the first monsoon storms of the summer season. His experimental *milpa* field produced two, tapering, cigar-shaped ears per plant by mid- to late-October. Those ears had 12 rows of smooth, round, chocolate-colored kernels, which were sometimes partially "wrapped" in paper-like glumes, much like the famous tunicate pod corn that was sacred to many tribes in the Northwest Mexico and the U.S. Southwest.

Near the end of his life, I briefly knew that great Mexican ethnobotanist—who

was nicknamed "Xolo" by his friends and treated as living legend himself. He was fascinated by the heirloom maize varieties of Mexico which had traits indicative of occasional natural cross-pollination with the wild ancestor of corn, *teosinte*. He believed that Chapalote had teosinte-like traits, and classified it as a bridge between wild corn ancestors, popcorns and flint corns. Xolo and I talked about the northern-most teosinte populations in Chihuahua, which were in the headwaters of the rivers which drained down to the Sinaloan and Sonoran coasts. Perhaps Chapalote received some of its teosinte-like genes through prehistoric corn trade along these corridors that ran down from the heights of the Sierra Madre Occidental.

Sometime between 1492 and 1952, Chapalote had fallen out of cultivation in the Southwestern Deserts that now lie within the United States, perhaps because of its susceptibility to rust disease. Nevertheless, it persisted in the Central Sonoran foothills of the Sierra Madre where it was toasted and ground into a nutritious trail food and breakfast cereal known as *pinole*. To this day, Sonoran towns where Chapalote was grown—such as Ures, Suaqui and Sahuaripa—still pride themselves on making the best *pinole* in all of Mexico, largely because they continue to favor flinty heirloom popcorns.

AGRICULTURAL & CULINARY REVIVAL

It was not until around 1967 that New Mexican ethnobotanist Vorsila Bohrer re-introduced Chapalote to the Southwest, hoping to compare its traits to those of the prehistoric cobs she had found in caves and rock shelters in the region. In 1972, she shared the Sinaloan-derived seed she had received from CIMMYT researchers in Mexico with a couple of farmers working with archaeologists in the Tularosa Basin of New Mexico, not far from where the first nuclear bomb had been tested at White Sands. There, the farmers and archaeologists grew Chapalote at two elevations, and then compared their harvest with cobs from the nearby site known as Fresnal Shelter, which were dated to be 3600 years old.

Although the Chapalote field planted at 7,000 feet in a high canyon froze out and died in September, the other field produced a sizeable harvest at 4800 feet. Given the equivalent of 2.1 acre feet in supplemental irrigation, the mid-elevation crop yielded about 800 pounds of dried, shelled corn kernels per acre. Although the cobs averaged only 8.6 rows per ear—much fewer than Xolo had produced—they were

longer, and were filled with colorful seeds. The Chapalote kernels grown in New Mexico were not only chocolate-colored, but a golden tan, yellow and cream-colored as well. Different ears had different hues, with each ear falling on a gradient from dark chocolate to pale cream.

Last year, when I grew the first heirloom Chapalote I had grown in years, I was surprised to see the very same color variation in the heirloom strain descended from Vorsila Bohrer's Sinaloan-based seeds, because I had remembered only the chocolate brown kernels. When I carried those darker-colored ears up to Hayden Flour Mills in Phoenix for an experimental grinding by artisanal miller Jeff Zimmerman, the pizza and polenta baker at Pane Bianco Marco Bianco spotted them. He asked Jeff and I if he could toast them in a wood-fired pizza oven before Jeff ground them, so that he could make us a polenta with the meal.

The results were stunning. The ground cornmeal held a certain golden-brown, almost rusty color, and had a flinty texture that was marvelous when mixed with soft cheese in polenta. The rustic polenta that the Bianco brothers imagine they can refine from Chapalote will be featured in their three Phoenix restaurants in the autumn of 2012.

The agricultural and culinary revival of America's oldest popcorn could not have been done without a broad and goodwill collaboration of seed savers, archaeologists, farmers, millers, food historians, foodways folklorist bakers and chefs. This culinary treasure not only deserves to be on the global Ark of Taste, but should be introduced and taught about in every school in the United States. Why should students only learn that a farmer named Washington was our first president, if they don't also learn that Chapalote was our very first corn? 🌽

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