Many wild tomato types grow throughout the Andes from Chile to Colombia, but the plant was apparently first cultivated in Mexico by the Maya, the Nahua and others. Marvelous accounts of tomato diversity are recorded in the Florentine Codex. According to that collection of ancient Mexican lore begun in the 1540s by the Spanish priest Bernardino de Sahagún, vendors sold “large tomatoes, small tomatoes, and leaf tomatoes” as well as “large serpent tomatoes” and “nipple-shaped tomatoes” at the Nahua market at Tlatelolco, in what is now downtown Mexico City. They were “quite yellow, red, very red, quite ruddy, ruddy, bright red, reddish” and “rosy-dawn colored.” Some were bitter tomatoes “which scratch one’s throat, which make one’s saliva smack, make one’s saliva flow; those which burn the throat.”

The Spanish conquest took the tomato first to Spain in the early 16th century, and from there to the Middle East and Italy, though tomato sauce would not become an Italian mainstay until the late 18th century. Tomatoes were long thought to be poisonous, perhaps because of the alkaline flavor of the earliest cultivated iteration and their similarity to belladonna. Lore has it that Thomas Jefferson, who grew tomatoes at Monticello, helped destroy the poison myth by consuming his harvest. The tomato soon found its way onto American plates and even into tomato pills, an early dietary supplement craze. The tomato itself is a seed-bearing fruit, but the Supreme Court, noting its customary place in the meal, classified it as a vegetable in 1893, for the purpose of deciding which tariff to charge for imports.

In the early 20th century, Heinz ketchup and Campbell’s Soup drove U.S. tomato consumption. Because tomatoes are finicky—frequently attacked by viruses, fungi and insects—large-scale tomato farming took root in California, where the dry summers minimize pestilence. (Because water fosters growth of fungi and mold, the cardinal rule of tomato watering is: Don’t get their heads wet.) A dramatic change in the very nature of the tomato came in the late 1950s, when Jack Hanna, a plant breeder at the University of California at Davis, developed a hardy, tough-skinned tomato that could be more readily harvested by machines, then being developed in Michigan and California. Within a couple of decades, machines were gathering most of California’s tomatoes.

The architect of the modern commercial tomato was Charles Rick, a University of California geneticist. In the early 1940s, Rick, studying the tomato’s 12 chromosomes, made it a model for plant genetics. He also reached back into the fruit’s past, making more than a dozen bioprospecting trips to Latin America to recover living wild relatives. There is scarcely a commercially produced tomato that didn’t benefit from Rick’s discoveries. The gene that makes such tomatoes easily fall off the vine, for instance, came from Solanum cheesemani, a species that Rick brought back from the Galápagos Islands. Resistances to worms, wilt and viruses were also found in Rick’s menagerie of wild tomatoes.

Flavor, however, has not been a goal of most breeding programs. While importing traits like disease resistance, smaller locules, firmness and thicker fruit into the tomato genome, breeders undoubtedly removed genes influencing taste. In the past, many leading tomato breeders were indifferent to this fact. Today, things are different. Many farmers, responding to consumer demand, are delving into the tomato’s preindustrial past to find the flavors of yesteryear.

Each September, a former restaurateur named Gary Ibsen holds TomatoFest, a celebration of the heirloom tomato outside Carmel, California. The definition of an heirloom is somewhat vague, but all are self-pollinators that have been bred true for 40 years or more. (By contrast, a commercial hybrid is a cross between two parents carefully chosen for notable traits, with the seeds produced by physically pollinating each flower by hand; tomato breeders contract out that painstaking task, mostly to companies in China, India and Southeast Asia.) At TomatoFest, about 3,000 people tasted 350 heirloom tomato varieties and various tomato-based dishes prepared by leading chefs.

“I never cook with fresh tomatoes unless I can get heirlooms,” Craig von Foerster, chef at the Post Ranch Inn in Big Sur, told me as he ladled out a mesmerizing Thai-spiced gazpacho made with Lemon Boy and Marvel Stripe tomatoes. David Poth, kitchen manager at Google corporate headquarters, in Mountain View, had had a hand in a triplet of sorbets made from Green Zebras, Brandywines—and salmon. Ah, California.

At the heirloom table, I saw that the Red Peaches looked leathery. The Russian Limes were yellow with nipples. The Black Cherries, Black Princes, Black Zebras and Black Russians had dark olive green skins with muddy orange shading. The big pink-striated Dinner Plate looked like a nectarine. The German Red Strawberry was indeed shaped like a giant strawberry. Green Sausages were...