

How About Them Apples!



Cider making time at the mill. Slice those apples, churn them through the rotating spiked tooth scratter, press the mass of pulp and bingo: fresh, unadulterated, naturally sweet cider. Depending on the apple type, a gallon of this nectar requires about 50 apples. Much work, but a delightfully delicious pay off.

This fresh cider should not be confused with apple juice that has been filtered, cooked, and pasteurized, essentially robbed of its essence to extend its shelf life. Nor are we talking about “hard cider,” the fermented alcoholic beverage, although confusion is understandable. Only we North Americans make a distinction between alcoholic and non-alcoholic cider. Cider in the rest of the world is an alcoholic drink. After all, “cider” is derived from the Middle English *sicer/ciser* “strong drink” and the old French *sizre* “fermented beverage.”

Commonplace and ubiquitous, about 2,500 apple varieties are grown in the US, 7,500 around the globe. A little over one-third are processed into products like cider, apple butter, and applesauce. Fresh, fried, dried, stewed, roasted, coated with caramel or candy, this fruit is a versatile food that has insinuated itself into idioms, like “upset the apple cart” and “second bite of the apple.” It also became the name of a successful electronics company because the founder liked apples, enjoyed his stay at the hippie “Apple Orchard” commune, thought the name fun, spirited, not intimidating, conveying simplicity and sophistication.



Apples’ nutritional value is unquestioned. The Welsh saying: “Ate an apfel avore gwain to bed, makes the doctor beg his bread” (which we have less elegantly translated as: “An apple a day keeps the doctor away”) has a basis in fact. Apples contain fiber but no fat, cholesterol, or sodium. They are rich in quercetin and pectin, the former possesses antioxidants to combat heart disease and diabetes, and the latter prevents constipation, lowers bad cholesterol, and helps prevent chronic diseases including certain cancers and bowel disorders. To top it off, the apple is nature’s toothbrush: it cleans the teeth and massages the gums.

Have you ever chanced to wonder where and how apples originated? Popular scientist Carl Sagan famously quipped: “If you wish to make apple pie from scratch, you must first create the universe.” Not a recipe for those short on time, but it does make the point that finding the first apple requires stepping way far back in time.

How far back? According to one estimate, about 750,000 years ago a fruit that we would recognize as an apple probably looked and tasted like the Siberian crab apple (*Malus baccata*),

small and bitter (we thank the Saxon's for the term "crab" meaning "bitter/sour"). This apple thrived in the mountainous region of Tian Shan (Chinese for "Mountains of Heaven") that stretch from China across Asia through the "stans," including Kazakhstan. The largest city in Kazakhstan, Almaty, was originally called Almatay – Apple Mountain.



Tian Shan benefited from the Indian Ocean's moderating winds that held at bay glacial tides that scraped clean other parts of the earth, allowing animals and plants to flourish in its temperate climate. Tulips, pears, figs, cherries, and apples had their beginnings here. Originally the size of berries, fleshy fruits, like apples and pears, grew larger, satisfying the appetites of big animals like deer and bears. After thousands of years, one of nature's miracles occurred: a sweet apple.

To appreciate the magnitude of this miracle one needs to consider the quirky reproductive characteristics of an apple. Generally, apples don't self-pollinate, so bees or other insects are needed. Second, the seeds are enclosed in a leathery core that prevents them from germinating in the fruit. To grow, the apple needs to fall far from the tree. And apple seeds generally do not resemble their parent plant. Like humans, the seeds hold the DNA of their ancestors. Pollinated flowers produce an apple like the parent, but the seed is likely to produce a fruit with characteristics of say an old, crabby uncle. The new tree would have to survive about ten years to produce fruit. Imagine the multiplicity of possibilities until one good apple emerged.

These larger, sweeter apples were too big for birds to disseminate, and the seed had developed a hint of cyanide which repelled our feathered friends. But not so the bear who never (unhealthfully) thoroughly chews its food, leaving seeds intact and depositing them in the woods where bears do their business. Horses didn't venture into the woods but enjoyed apples as a food as they travelled along the silk road, to Samarkand, Baghdad, Damascus, and Istanbul. As unsavory as it sounds, road apples brought the fruit to the Middle East and Europe.



The clever Greeks (yet again!) became the first pomologists (scientists who cultivate fruit) when they reasoned that rather than planting seeds, which would yield heavens knows what kind of apple, they would affix a small stem from a tree that produced precious poms to root stock to propagate the tasty type. Grafting produced exceptional and prized fruit. In Greek mythology Gaia (Mother Earth) presented an apple tree to Zeus and Hera on their wedding day as a symbol of their love. And fearless, swift Atalante, who was the apple of

Hippomenes' eye, stopped to retrieve three golden apples he threw in her path to slow her in their foot race. He won the race and her hand.

Only crab apples are native to North America. Their earliest form – the size of a pea – possibly transported over the land/ice bridge at the Bering Straits about 20,000 years ago. Native Indians soaked the sour fruit in maple syrup or roasted it. Tastier apples were introduced by French Jesuits in the late sixteenth century and a bit later by the Pilgrims. Lord Baltimore advised

settlers to bring with them “kernalls of pears and apples,” to make “Cider and Perry (pear cider)” By mid-1600’s apple orchards dotted over 90% of Maryland farms.

Grafting was time-consuming and exacting. Many pioneers preferred just to plant seedlings. The yield would be sour apples, called “spitters” for good reason, suitable for cider but not for eating. Unless you were somewhat eccentric, like naturalist Henry Thoreau, who enjoyed apples that are “sour enough to set a squirrel’s teeth on edge and make a jay scream.” The most notable seed planter was John Chapman, better known as Johnny Appleseed. He sold or gave away seedlings and nurseries he started from Pennsylvania and Ohio all the way to Illinois.

A grafting frenzy broke out to develop a tasty pom. A 1904 publication listed 14,000 apple names. Virginia developed the excellent Newtown Pippin, Thomas Jefferson’s favorite that was so flavorful that, after eating one from the two barrels full gifted by the U.S. Ambassador in 1838, Queen Victoria exempted Virginia apples from the British tariff. Apple diplomacy.

The quest continues for the “perfect apple:” crunch, taste, longevity (storage), disease resistant. One pomology outfit hand pollinates 5,000 unique cross bred seeds a year but only 25 proceed to next step which can take up to ten years before fruit appears. And the result? Maybe a success, like the Pink Lady (1970), a cross between Golden Delicious and Lady Williams; Sweetango (2009), a mix of Honey Crisp and Zestar; or Snap Dragon (2013), a blend of Honey Crisp and Golden Delicious. Or dismal failure: an apple that tastes like soap or diesel fuel!

Some better-known apples appeared by happenstance. The Red Delicious showed up on an Iowa fence row in 1870 and was propagated by Stark Brothers Nursery. A few years later, a West Virginia resident notified the Starks of huge tree yielding scrumptious, yellow apples. The owner took \$5,000 for the tree (about \$100,000 today). Starks protected it with a wire cage and began to propagate the Golden Delicious apple. In 1868 Maria Ann “Granny” Smith discovered her namesake apple in



Australia by spotting an unusual plant growing where she had deposited remains of French crab apples. Precisely 100 years later the image of her fruit would become the symbol of Apple Records launched by the Beatles. In Canada John McIntosh found an unusual seedling when clearing a field in 1811 and cultivated the tree that bears apples of his name (and the name of a famous Apple computer but spelled “Macintosh “to avoid copyright issues). And the Ginger Gold emerged in 1969 from Hurricane Camille’s destruction of an orchard in Virginia.

The question inevitably arises at cider time: What blend of apples produces the best cider? Like wine, the aim is for a balance of sweetness, acidity, and tannin. Honeycrisp and Galas are sweet; Granny Smith and McIntosh offer tartness and tannin. Taste your pick. Or pick your taste. To help you out, here is a link to [DIY apple manual](#) that lists characteristics of different apples.

As you savor the cider, chomp into a caramel apple, or delight in a slice of apple pie, pause a moment to recall the thousands of years, the birds, bees, bears, horses, seeders, pomologists, and nature’s miracles it took to bring you this delicious fruit. How about them apples?