

Seeds That Defied Romans, Pirates, and Nazis

by Robert Krulwich July 28, 2015

Our story starts quietly in a museum. In a cabinet. There, in the dark, sits a small batch of seeds: Persian silk tree seeds. They come from China. They were taken, probably secretly, from Beijing to London by a British diplomat in 1793. The British wanted to grow silk.

Flash forward to 1940. German bombers are flying over London. An incendiary bomb hits the botany section of London's British Museum, smashing our cabinet, releasing the seeds. They fly off, land in the rubble, and get doused by London's fire brigade. Weeks later, museum workers see some sprouts growing at the bomb site—baby silk trees. They'd germinated after 150 years in a cabinet.

Seeds can do that.

A seed, after all, is an embryo, a potential plant waiting for its moment to grow. It has what it needs to begin. But it can also put itself on pause. It can wait. The question is, For how long? No seed can last forever. But for how long can it pause?

Another Story

Jan Teerlink, a spice merchant, is heading home to Europe aboard a Prussian ship, the *Henriette*. It's 1803. He's bringing tea and silk to Amsterdam from the Far East. In his luggage is a red, leather-bound notebook, and stashed between its pages are 40 small paper packets of seeds, including those of a pleasing flowering plant called the pincushion protea. Teerlink collects seeds. While sailing on the Atlantic, his ship is attacked by British buccaneers (pirates with an official license to steal whatever they can from unfriendly nations). They overpower the crew, seize Teerlink's cargo, and confiscate his notebook. Being legal pirates, they then deposit the notebook, packeted seeds still inside, with the British Admiralty in London. No one notices the seeds. The book is sent to a storage facility in the Tower of London. There it sits. Later, it's transferred to the U.K.'s National Archives. It was here that [the book was found](#) a few years ago by a visiting Dutch

professor, the seeds still in their packets. The professor planted them, and, after 200 years, produced three lovely, healthy plants, including a pincushion. That's after a *two-century pause*. Can we do better?

OK, Another Story

We can. In the 1960s archaeologists found a tomb in Argentina that contained an ancient rattle. It was made of a walnut shell (*Juglans australis*) with canna lily seeds banging around inside. They opened the nut, removed the seeds, planted some, [and got a lily](#). When they carbon dated the seed, it was 600 years old. A six-century pause! Is that the record?

No! An Even Better Story

When Flavius Silva, a Roman general, broke through Jewish defenses at Masada in the winter of A.D. 72-73, his legions rushed into a complex of palaces built by Herod the Great, looking to hunt down a band of Jewish rebels who had gathered on the plateau, swearing eternal resistance to Rome. He found ... not a one. There had been almost a thousand Jews at the outpost—men, women, and children—but when the Romans got to them, they were all dead. They'd committed mass suicide. Just before they died, they lugged all their provisions, money, valuables, and food to a warehouse and burned the place down. It was a smokey hump. The Romans left. The hump stayed.

Two thousand years later, a team of archaeologists began digging carefully through that refuse pile. They found coins, tools, salt, grains, and, as you probably guessed, seeds. Back in Jesus' time (and Cleopatra's and King David's) Judea was famous for its sweet, flavorful dates. They were exported across the Roman Empire and celebrated in the Bible and the Koran. And in that dry, proteted ruin, archaeologists found a little jar with a batch of date seeds inside. The seeds were sent to Bar-Ilan University, where they were carbon dated and found to be a little older than the siege of Masada; they'd been collected 2,000 years ago.



A photograph of the date palm called Methuselah taken in 2008 shows the plant, which sprouted from a 2,000-year-old seed, when it was about three years old. It's now about ten years old and ten feet (three meters) tall. Photograph by Arava Institute, EPA

Would they germinate? No way, it was thought. In his new book [*The Triumph of Seeds*](#), Thor Hanson interviews Elaine Solowey, an agricultural expert at Kibbutz Ketura in the Negev desert, who said, “I really didn’t expect anything to come up.” She had been given three of the recovered seeds, bathed in a hormone-rich solution. But still, she told Thor, “I thought those seeds were as dead as doornails. Deader than doornails.” But, what the heck, she planted them.

And—against all expectations—she got a sprout. That sprout grew a foot, then five feet, then ten feet. When National Geographic [last checked](#), in March this year, Solowey’s palm tree had blossomed and produced healthy dollops of pollen. So it’s a male palm. To produce a true Judean date, it will need a female palm companion, and Solowey says that while she hasn’t yet found an exact ancient species match, she’s mated her ancient palm with a modern one and gotten a fruit. So her 2,000-year-old baby tree can now, as she proudly and coyly put it, “make dates.”

It also has its own bachelor pad. “We built him his own gated garden, with his own watering system, burglar alarm, and security camera,” Solowey told Hanson.



“Methuselah” the Date Palm, sprouted from a 2,000 year old seed that was found in the excavations of Masada. Here it is, photographed in 2014. Photograph Courtesy of www.HolyLandPhotos.org

As far as we know, that Masada date seed holds the record for Longest Known Pause Before Growing.

What seeds do when they’re doing nothing is a matter of some debate. When you get dried grass seeds at a gardening center, they *are alive*. They don’t look it or feel it, but when you scatter them on the wet, moist ground, they perk into action. If they were dead, they’d stay dead. They’re either dormant—which seems to mean they’re in a deep pause—or they’re metabolizing (very, very slowly), or they’re in a mysterious category we sometimes call suspended animation, which is close to dead but not. Whatever their secret, they have, some of them, enormous staying power, which leads me to my very last (I promise) story.

Once Upon a Time There Was a Squirrel

Thirty-two thousand years ago—yes, we’re making a huge leap here—a squirrel living along the Kolyma River in what is now Russian Siberia was collecting seeds, as squirrels do, and storing them in an underground burrow, when all of a

sudden an avalanche, mudslide, terrible storm, or something landed and smothered the squirrel, the burrow, the seeds, everything. There must have been a bunch of squirrels in the area because, [according to the New York Times](#), when archaeologists began digging a few years ago, they found “more than 600,000 seeds and fruits” at the site. They tried to make the seeds grow. They wouldn’t. But a little bit of tissue from a bit of surviving fruit was cloned and turned into a living, working plant, the narrow-leafed campion (*Silene stenophylla*).



Outgrowths of the *Silene stenophylla*, considered as the oldest plant ever to be regenerated, are seen inside containers at a laboratory of the Institute of Cell Biophysics under the Russian Academy Of Sciences in the town of Pushchino. Photograph by Denis Sinyakov, Reuters

If a bit of tissue can make a 32,000-year leap, then there’s got to be a seed somewhere, maybe lots and lots of seeds, that can hold on for longer than 2,000 measly years. I suspect we’ve got champions quietly resting all over the globe, not telling us that they’re still there—all of them waiting for the drop of water, the touch of flame, the burst of warmth that kicks them back to life.

This story isn’t over.

If you want a truly comprehensive listing of the longest lasting seeds, check out [this botany textbook](#), but if you're just curious and want a rip-roaring read, then Thor Hanson's *The Triumph of Seeds* is the newest and best one around. For a gander at the spectacular things seeds can do, check out my earlier columns "[Strange Things Happen to Guys Who Wear Pants](#)" and "[How Do Plants Know Which Way Is Up and Which Way Is Down?](#)"

