**THE POTATO THAT CHANGED THE WORLD**

It was a small round object sent around the planet.

It changed the course of human history.

It was a potato.

On Columbus Day, the country commemorates the grand global changes — discoveries and destruction alike — that unfolded after Christopher Columbus linked the New World and the Old. But some scholars take a different of Columbus’ impact. They look at the seeds and seedlings that began crisscrossing the oceans in what they call the “Columbian Exchange.”

The potatoes, tomatoes, corn, peppers, cassava and other plants native to the Americas did more than enliven the cook pots of Europe, Africa and Asia. They transformed cultures, reshuffled politics and spawned new economic systems that then, in a strange loop, came back to the New World, as well.

It was a grand shuffling of organisms with results both great and disastrous:

* Malaria-fighting quinine from the South American cinchona tree helped European colonization throughout the tropics;
* the ballast dumped in Virginia by ships picking up tobacco introduced earthworms to the Mid-Atlantic.
* Diseases common in the Old World devastated the populations in the New World.

“What happened after Columbus,” writes science journalist Charles Mann in “[1493](https://read.amazon.com/kp/embed?asin=B004G606EY&preview=newtab&linkCode=kpe&ref_=cm_sw_r_kb_dp_2f6TBbHJS0ZVB&tag=thewaspos09-20),” his book on the topic, “was nothing less than the forming of a single new world from the collision of two old worlds.”

The potato alone gets credit for population booms in parts of northern Europe that paved the way for growth of the cities. Tobacco had such value it was used as currency in some places. Some American foods became staples abroad, from the tomato in Italy and cassava in Africa to the peppers.

“There really was no spicy food in the world before the Columbian Exchange,” said Nancy Qian, an economics professor at Northwestern University who has studied how the back-and-forth flow of new foods, animals and germs reshaped the world.

Researchers don’t know what use Native Americans made of the peppers that originated in Bolivia and Brazil. But as they spread around the globe, the zesty pods that are the ancestor of modern bell, cayenne and jalapeño peppers allowed cooks to conceal the tastes of foods that were still edible but spoiled. Soon peppers would form the base of dishes around the warmer latitudes, from Vietnamese pho to Mexican salsa.

By far the most consequential transfer of organisms was the introduction of unknown pathogens into the defenseless populations of the Americas. In the first century-and-a-half after Columbus, smallpox, measles, whooping cough, typhus and other infectious diseases killed up to 80 percent of native people. When Europeans introduced sugar, cotton and other plantations to the Americas, they enslaved more than 12 million Africans to work them.

On the other side of the Atlantic, fewer cataclysmic shifts occurred when new species arrived. None had more impact than the potato.

Before Columbus landed on Hispaniola, the European diet was a bland affair. In many northern areas, crops were largely limited to turnips, wheat, and barley. Even so, when potatoes began arriving from America, it took a while for locals to realize that the strange lumps were, comparatively speaking, little nutritional grenades loaded with complex carbohydrates, amino acids and vitamins

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“When [Sir Walter] Raleigh brought potatoes to the Elizabethan court, they tried to smoke the leaves,” Qian said.

Eventually, Europeans figured out how to cultivate potatoes, which form a nutritionally complete — though monotonous — diet when combined with milk to provide vitamins A and D. The effects were dramatic, boosting populations in Ireland, Scandinavia, Ukraine and other cold-weather regions by up to 30 percent. The need to hunt declined and, as more land became productive, so did conflicts over land.

Frederick the Great ordered Prussian farmers to grow potatoes, and the potato moved to the center of European cultures.

"Let the sky rain potatoes,” Shakespeare wrote in "The Merry Wives of Windsor.”

Their portability made them ideal to transport into the growing cities, feeding the swelling population that would be needed for a factory labor force.

“It’s hard to imagine a food having a greater impact than the potato,” Qian said.

Cassava, which remains the foundation of many African diets, had a similar nutritional impact as it spread from the Americas. Sweet potatoes, too, proved hardy. In China, some scholars credit the sweet potato with reducing the frequent uprisings against emperors, whom peasants tended to blame when floods destroyed their rice crops.

Some of the most notable additions to global cuisine are nutritionally neutral:

* chocolate (made from cacao beans);
* vanilla (which was first processed to improve the flavor of chocolate); and
* the tomato, a native of the Andes that had been transported to Mexico.

Native plant breeders radically transformed the fruits, making them bigger, redder, and, most important, more edible." The result would transform the cuisine of Italy and bestow upon the world pizza and ketchup.

“We don’t need them to survive,” Qian said. “But I don’t want to imagine a world without tomatoes and chocolate.”