



On the 4th of November 1492, Columbus came ashore on the island we now know as Cuba. The natives greeted him with two gifts. One was tobacco, the other was corn. His diary for the next day contains the following entry:

“There was a great deal of tilled land sowed with a sort of grain like millet, which they called *Mahiz*, which tasted very well when boiled, roasted, or made into porridge.”

—Christopher Columbus, 1493

On one day, the American plants of corn and tobacco were introduced to the rest of the world. The Indians presented their corn to Columbus not only because it was a valuable food but also because it was the basis of American civilization.

“They used it for every possible food and for every possible sacred ceremonial use because corn is at the heart of all the mythology, all the calendars, all the religions, and all the rituals of Mesoamerica. The original word for corn, *mahee* in Arawak, meant seed of life. Because life in the created universe began with corn, with the corn gods—it’s really the seed, the womb of life. Mother Earth was also Mother Corn, being fertilized by



the sun, by the heavens, by Father Sun. Out of that, the universe sprouts. But what sprouts? A corn tree. The corn tree becomes the axle of the universe. A corn

plant and all the cobs on that tree are heads of gods. So the corn god is represented in the plant, man was created from a dough of corn and blood. So his life depends wholly on corn, just as corn depends upon man to plant and harvest it.”

—Betty Fussell

The Indians of Mesoamerica showed the Spaniards how to grow and store corn. It was a strong plant; it traveled well, grew fast, provided plenty of food and quickly spread throughout the world.

“Corn is amazing in that it instantly changed the way the world eats. It went around the world, after Columbus, and with great speed it developed everywhere it went, because

it grows every place but the North and South Poles. So it has this capacity to adapt itself to all kinds of climates and ecologies: damp, dry, high, low. So first of all, it could go everywhere. Secondly, it could be eaten by both men and animals. That’s enormously important. Corn has ended up with this kind of double purpose, as the world’s best animal feed.”

—Betty Fussell

During the 1500s and 1600s, European farmers planted their

fields by scattering handfuls of grain over the earth. The grains started growing where they fell. Farmers waited for the weeds to come up with the crop, then pulled up the weeds.



Native Americans had a very different approach. Before the arrival of the Europeans in America there were no draft animals to help with the farming. Land was cleared by hand using a technique called “slash and burn.” The only tools available were sticks, or axes and hoes with blades and points made of wood, seashells, deer antlers, or the shoulder blades of animals.

“When Europeans got to North America and Central America and South America, they were astounded at the way the Indians practiced agriculture. They found the Indians had made little mounds, like a checkerboard design. Huge fields, miles and miles and miles in extent. And each little mound was exactly in its mathematical place in rows. And in the mound the Indians would plant four or six grains. A little bit later they would plant beans. A little bit later they would plant squash. The corn plant would go straight up, the beans would climb the corn plant, and the squash would grow down the mound and cover the space in between the mounds to keep down weeds. This was all immaculately done, everything clean and clear.”

—Margaret Visser

Corn, beans and squash were planted together and eaten together. The Iroquois thought of these crops as inseparable

sisters, like The Supremes when they first got started. The coastal Indians would plant a fish in every hill. Not adding the fish was considered a sin and without it the corn would refuse to grow. Somehow the Indians had discovered that corn needed large amounts of fertilizer. The nutrients in the fish helped keep the corn from depleting the soil.

When Indian women prepared corn, they often added a little burnt wood or burnt shell to the cook pot.

"We now know that this is an incredibly intelligent thing to do. If the Indians had not done that, corn would never have been their staple, because corn lacks various nutritional ingredients. Some things it lacks are added by beans and squash. Niacin is in corn, but human beings can't digest it. So the Indians used to add ash to every pot of corn they cooked. This was good in two ways. It softened the hulls of the kernels and made them easier to digest. The alkali also loosened this essential vitamin, niacin, so human beings could digest it. It's extraordinary, because the Indians used to offer corn to the gods, their sacred food. And they never added ash when they offered it to the gods. They somehow knew that human beings needed the ash. The gods didn't."



—Margaret Visser

If you try to live on corn without the addition of beans and squash or without processing the kernels with ash or some other alkali, such as lime, you will end up undernourished and eventually develop the agonizing disease known as pellagra.

But corn was not well accepted in Europe, and many countries never made it part of their diet. The French still think it's only fit for animals, and the Irish rejected it until they were starving.

The Italians, on the other hand, understood corn and used it to make polenta, which is a common dish in northern Italy. It's based on *puls*, or *pulmentum*, the farro, millet, or chickpea porridge of ancient Rome. Today you will find dozens of regional polenta dishes in Italy.

Hesitant at first, European settlers to North America eventually incorporated corn into their diet. It was easy to bake corn on a griddle. The result was a firm disc that could be carried on a journey—which is how they came to be called journey cakes, which eventually became Johnnycakes. *Pone* was a corruption of *oppone*, the Algonquin word for corn batter cooked on hot stones. Whipped egg whites were added to produce a corn soufflé called spoon bread. And coarsely ground white cornmeal was called grits.

THE SEX LIFE OF CORN

If you check a dictionary you will find that the English word "corn" refers to a country's most important grain. If a country

makes its daily bread with wheat then wheat is described as the "corn" of that country. Oats are the corn of Ireland. Rye is the corn of Sweden. When the first English speakers arrived in America they saw that maize was the basic food of the natives and so they called it "Indian corn."

Maize is a giant grass, which produces very large seeds. Each kernel is really a fruit, with an oily seed surrounded by starchy nutrients that are held in a hull. The corncob and its seed is covered with a husk which makes it easy to harvest, easy to feed to livestock—and because it is so easily preserved by drying, it is also easy to transport, and easy to store. It could be considered one of the original packaged foods.

Corn sounds like the greatest plant on the planet, so what's the hitch? As is so often the case in relationships—it's sex. Because the husk is so strong and tight, corn cannot seed itself.

"We have this unbelievable plant which has all these soft kernels side by side stuck in a cob with a sheath covering them. They are close together, they are tightly held to the cob, and the sheath cannot be removed by nature. If you let it lie on the ground, it would just simply rot. Even if you took the sheath off and threw it on the ground, it would not grow. So corn absolutely and totally depends on human beings to survive."

—Margaret Visser

Today people cultivate six major varieties of corn: dent, flint, flour, sweet, pop and waxy. The oldest is popcorn. Popcorn has a hard hull. When it's heated, the starch inside the skin of the kernel fills with steam until it bursts: with other types of corn the steam leaks out, which is why they don't pop. Some historians believe that the accidental popping of a hard grain in a fire gave ancient man, or more likely ancient woman, the idea that cereals were edible.



"You have popcorn beginning as an important American product in New England about 1820, 1830. And it becomes the celebrity product of this time, with Henry David Thoreau popping corn and writing about it in his journal. And Emerson saying it's a wonderful thing to give to the kiddies at Christmastime; it gets them away from the adults. And you have all these other great Americans talking about the importance of popcorn, which they all considered to be something new and exciting. So it enters into America from the top down.

"It is only when the Depression comes that all of a sudden movie owners are confronted with going out of business, or establishing a new revenue stream. And of all snacks, you can make the most amount of money, by far, in popcorn. The profit margin has consistently been 75 percent, after all of the

other expenses connected with popcorn. Theatre owners found that you either began selling popcorn and snacks or you went out of business. There are nice stories from the 1930s about popcorn making the difference between whether a theatre would survive or not. And the price of admission was decreased, so that they could get people in to buy popcorn, which is how the theatres made money."

—Andrew F. Smith

The superhero of popcorn was Orville Redenbacher. Orville was an agricultural extension agent in Indiana who came up with a kernel that popped bigger than any kernel ever popped—fifty times bigger than the kernel.



"Popcorn is one of the few foods that's purchased by weight, but sold by volume. So if you increase the volume, you increase your sales. Orville Redenbacher concluded that this was going to revolutionize the popcorn business.

"He went out to popcorn processors who sold generic popcorn and tried to convince them that his popcorn was better than theirs. And they all laughed at him.

"So he decided to prove them wrong. He piled his popcorn into his truck and went around to upscale markets, demonstrating the stuff. He produced his popcorn, and gave it away at Marshall Field's in Chicago. And lo and behold, people loved it.

"He decided he needed some marketing help, so he went to a public relations firm in Chicago and paid them \$18,000, saying 'I need help with a name for this stuff.' After about two-and-a-half hours they said, 'We have the right name for your new popcorn.' Orville asked, 'What is it?' And they replied, 'Orville Redenbacher's Gourmet Popping Corn.'

"Orville kind-of scratched his head and said, 'Well, my mother thought that was a good name, so therefore it should be a good name for my product, too.' And hence the name Orville Redenbacher's Gourmet Popping Corn was invented. Now, there were no gourmet foods at that time. So this is not obvious today. But in one way, Orville Redenbacher created the market for gourmet food."

—Andrew F. Smith

KERNELS OF TRUTH

Flour corn—the basis of the original *tortillas* and *tamales*—is rarely grown outside of Central and South America. There, it is still ground by hand. The kernels rest on the *metate* stone. The hand-held *mano* is rolled over them to produce the flour used to make the bread of the Americas. It's still common in much of South and Central America to see the stones placed outside the houses, so the neighbors can keep each other company as they work.

Sweet, waxy, and flint corn all have their place in modern industrial agriculture, but the world's most popular corn crop is the sweet, starchy variety called dent, which is a reference to the dimpled appearance of each kernel. Native Americans thought of dent corn as the best example of the female, maternal nature of corn.

In a healthy cornfield, the plants grow slowly during the day but quickly at night. Under ideal conditions, a corn plant will grow four and a half inches within 24 hours.

"A lot of American farmers have said that they heard their corn growing, and people say, 'Oh, come on.' But it's a plant which is very large, and its growth involves unfurling leaves. So if it's growing a leaf will suddenly unfurl, and it makes a sound, and it scrapes the stalk. I have heard it. It has to be a windless night and it has to be the peak growing season, and you've got to have patience as well. You've got to sit there for a while. But you can hear these unfurling leaves; it's really quite eerie."

—Margaret Visser

SHE WHO SUSTAINS US

During the 1930s and 1940s, the farms of the United States and Canada began to alter their operations so that much of the work could be done by machine. Nowadays, the United States produces more than half of the world's corn, over 250 million metric tons per year. And 80 percent of that crop is grown in the Corn Belt, an area of 350,000 square miles that runs from western Ohio to eastern Nebraska, with the largest tonnage coming from Iowa and Illinois.

American chickens and cows are fed on corn and cornstalks, which means that both meat and milk are part corn. Even the stamp on meat that marks it "Grade A" is made with corn oil. In fact, 85 percent of the corn grown in the United States is used to feed animals.

"Columbus' discovery of corn in the New World changed the diet of the world. In America, we have all this space for animals. When this kind of fodder became available to animals, it really tipped the balance towards a diet of meat, replacing grain. Meat and dairy. So we became the giant meat eaters, and that became the model, in a way, for the rest of the world."

—Betty Fussell

It is almost impossible to buy anything in an American supermarket that has not been affected by American corn.

Frozen fish has a light coating of cornstarch to help prevent it from drying out. The golden color of our soft drinks comes from corn syrup. Corn syrup is the basis for candy, ketchup and commercial ice cream. Most canned foods are bathed in a



liquid containing corn. Corn oil is an essential ingredient in soap. Many beers, gins, and vodkas contain corn products. Corn products are used to help foods hold their shape and to prevent ingredients from separating. Every carton, every wrapping, every plastic container is made with corn products.

A key corn product is cornstarch—a white, odorless, tasteless powder that is easily molded. It's used in the production of thousands of products—toothpastes, detergents, match heads, charcoal briquettes.



"Corn is useful when you want something to stick. You make glue with corn. It is also useful when you want something not to stick, so molds use it to prevent it from sticking. You dust candies with cornstarch to prevent them from being sticky. You add it to instant coffee to help it pour. It does everything: it sticks, it doesn't stick, it's thick, it holds, it lasts. It's the dream stuff. It's extraordinary, when you think about it."

—Margaret Visser

During the early 1800s, a Russian chemist named G. S. C. Kirchoff found a way to produce sugars by treating cornstarch with acid, and in the process invented corn syrup. Sweet, easily available and inexpensive, corn syrup quickly began to replace sugar. The power of sweetness which had belonged almost exclusively to cane sugar was suddenly being shared. Today, corn syrup is used in more products than sugar—from soda to ketchup, corn syrup is the source of our sweet life.

Your home, the furniture inside it, the car you drive and the road you drive on are all made with corn products.

"Everywhere you look you have corn. You're not aware of it, but underneath it all, it's a driving wheel of the entire American economy. Americans could have used something else for their starch, turning wheat starch or potato starch into modern technology. But in fact, they turned to corn, because they had corn. Therefore, corn becomes essential to modern technological societies all over the world. This technological revolution that took place enabled America to be way out ahead. It gave them a fantastic advantage."

—Margaret Visser

In 1726, Jonathan Swift, the author of *Gulliver's Travels*, wrote that "Whoever could make two ears of corn... grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of politicians put together."

Native Americans spoke of corn as "She Who Sustains Us," which is as true today as it was before any European set foot on this land. We depend on corn for more than nutrition: from fuel, to plastics, to industrial chemicals, to agribusiness, in many ways our modern technological society is inconceivable without corn. And new uses are invented every year.

TO LEARN MORE

THE STORY OF CORN

BY BETTY FUSSELL

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MUCH DEPENDS ON DINNER

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