It's a long story: How we got the best and brightest fruits and veggies

By Washington Post, adapted by Newsela staff on 05.25.16
Word Count **650**

A teenage boy sells vegetables at a market in Peshawar, Pakistan, April 21, 2009. REUTERS/Ali Imam

Farmers have been growing fruits and vegetables for ages. In that time, they slowly changed the plants they were growing. As a result, today's fruits and vegetables look very different than they used to.

Farming began about 12,000 years ago. Humans wanted to eat the tastiest and biggest fruits and vegetables, but wild fruits and vegetables didn't always taste good. Farmers collected the seeds from the tastiest and biggest fruits and vegetables. They replanted those seeds and ignored seeds from sour or small fruits and vegetables

Breeding Only The Best

Choosing the seeds of only the best fruits and vegetables to replant meant that only those plants survived. This is called selective breeding. As a result of selective breeding, fruits and vegetables started to change. Anyone who has tried a wild plum can tell you that wild fruits are often more sour with thick, bitter skins.

Each plant has its own story. The eggplant is a good example. The eggplant got its English name because the original plant looked like a small white egg. Selective breeding turned it into a large purple vegetable.

Carrots are another story. Wild carrots are yellow, purple and white. They are not orange. Dutch folklore says that the orange carrot was grown in the Netherlands in the 1600s to honor William of Orange. He led the cause for Dutch independence.

Telling Tomatoes How To Grow

More recently, selective breeding has also started happening in labs. Scientists can now directly change a plant's DNA, which tells fruits and vegetables how to grow.

When scientists change the DNA of a plant in the lab, it's called a genetically modified food, or GMO. In 1994, the first genetically modified tomato hit grocery stores. Scientists in Davis, California, had inserted DNA into the tomato that stopped the tomatoes from ripening too quickly. People did not want to buy it, though. The public viewed it as suspicious, even though humans had already been changing plants through selective breeding.

GMOs And The Fear Factor

There are many more GMOs today than there were in the 1990s. Corn is the most widely grown crop in the United States. About 9 in 10 corn plants are GMOs. Respected science groups have found no reason to not eat GMOs. In a 2015 survey, though, more than 1 in 2 people said that they thought GMOs were dangerous.

Part of this fear comes from growing crops that have the same DNA, which can be risky. This kind of farming is called monoculture. In the wild, plants have a variety of different DNA, and DNA naturally changes over time. Monocultures do not change, so they have trouble fighting disease.

Going Bananas Over Clones

The banana is an example of monoculture. Almost all of the bananas found in grocery stores are the same kind. They are Cavendish bananas, named after William Cavendish. He was the sixth duke of Devonshire. He loved studying plants. The duke's gardeners were the first to grow the Cavendish banana in greenhouses in the 1830s.

Although wild bananas have seeds, Cavendish bananas do not. Each banana plant is cut from the roots of a single mother plant. It is then replanted and turns into a large banana plant. These are called clones, and every single one has the same DNA. This results in the same fruit produced generation after generation, but its DNA cannot change to fight diseases.

The Cavendish banana became popular in the 1950s because it was resistant to Panama Disease. The Panama Disease was a fungus that destroyed another banana plant called the Gros Michel (or "Big Mike").

Today, almost 10 in 10 bananas are Cavendish bananas. That may soon change. Years of monoculture have made the Cavendish banana unable to fight a new strain of Panama Disease. Once the Panama Disease fungus reaches the big banana crops in Latin America, the Cavendish banana could disappear within a hundred years.

Quiz

1 Which of these details from the article BEST supports the idea that some GMOs are unpopular?

(A) Humans wanted to eat the tastiest and biggest fruits and vegetables, but wild fruits and vegetables didn't always taste good.

(B) Dutch folklore says that the orange carrot was grown in the Netherlands in the 1600s to honor William of Orange.

(C) The public viewed it as suspicious, even though humans had already been changing plants through selective breeding.

(D) Once the Panama Disease fungus reaches the big banana crops in Latin America, the Cavendish banana could disappear within a hundred years.

2 Based on information in the article, which of these statements is TRUE?

(A) Selective breeding has occurred in the past on farms, and is currently used in labs as well.

(B) Monoculture clones are well protected against disease.

(C) There are fewer genetically modified foods today than there were 12,000 years ago.

(D) A plant's DNA cannot be changed, but it can be reproduced.

3 Which paragraph in the section "Going Bananas Over Clones" is MOSTLY about why Cavendish bananas have had an advantage over other bananas?

4 Which section from the article focuses on the safety of eating genetically modified foods?

(A) "Breeding Only The Best"

(B) "Telling Tomatoes How To Grow"

(C) "GMOs And The Fear Factor"

(D) "Going Bananas Over Clones"