

### WHAT AM I?

This vegetable provides us with carbohydrates, as well as protein and fibre and has almost no fat. Although this vegetable is made up of 80% water, its skin and flesh also contain other nutrients like potassium, vitamin B and vitamin C. We eat this vegetable baked, boiled, mashed, scalloped, roasted and French fried!

Yes, we are talking about the potato, a popular and healthy food. But in Europe and North America, the potato was not always as popular as it is today.

### A BRIEF HISTORY OF THE POTATO

#### SOUTH AMERICA

The first potatoes grew wild in the **Andes Mountains** in South America as long as 13,000 years ago. These wild potatoes were small, narrow and quite gnarly or bumpy. They were also poisonous. Early Andean people discovered that if they dunked the wild potatoes in a “gravy” made of clay and water they would be safe to eat. Scientists have discovered that this worked because the poisons would stick to the clay and pass through the stomach without harm.

Over time the Andean people bred less poisonous potatoes. Farming of

potatoes first started in the area we now call **Peru** and **Bolivia** about 7,000 to 10,000 years ago.



#### DID YOU KNOW?

In Peruvian and Bolivian markets, you can still find some of the early, poisonous kinds of potatoes for sale – but they always come with a package of clay dust.

The potato was very important to the Inca people who lived and created an empire in South America between 1200 and 1572. The Inca’s would leave potatoes outside to freeze on cold nights and then thaw in the morning sun until they were soft, juicy blobs. Then farmers would squeeze out the water

to produce a stiff Styrofoam-like food called chuño. Chuño can be kept for up to 10 years without refrigeration so it provided food in years with bad harvests. It was also very nutritious as well as light and easy to carry so it was the main food for the Inca armies.

#### EUROPE

The Spanish conquistadors saw a potato for the first time when they arrived in Peru in 1532. They brought potatoes back to Spain not knowing that the potato would end up being far more valuable over time than the gold and jewels they had plundered.

At first, these strange new potatoes were not popular. Farmers mostly grew them for animal feed. Slowly the potato spread throughout Europe and by 1600, the potato had entered Spain, Italy, Austria, Belgium, Holland, France, Switzerland, England, Germany, Portugal and Ireland. Still the potato was looked at with suspicion. Some people believed that it was created by witches or devils because the food grew underground. It would take famine, war, royal laws, and several key people to convince Europeans to farm and eat potatoes.

#### DID YOU KNOW?

In Prussia and Russia, the peasants were ordered by law to grow and eat potatoes. In England and France, the upper classes were convinced to eat potatoes, so the lower classes started to eat them as well.

Frenchman, Antoine-Augustin Parmentier (1737 – 1813) stayed healthy during many years as a Prussian prisoner of war eating mostly potatoes. This convinced him to promote eating potatoes to the French.

He planted potatoes in a field near Paris. He hired armed guards to protect the field so people would think something valuable was growing there. Then he removed the guards at night so common people could steal the potatoes.

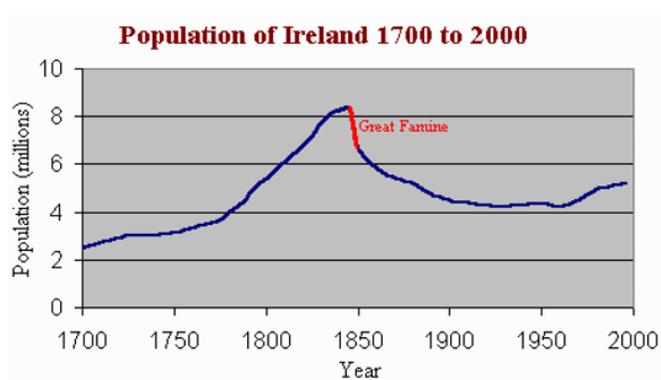
He wanted the support of King Louis XVI and Queen Marie Antoinette to encourage French people of all classes to eat potatoes, so he presented them with a bouquet of purple potato flowers. It is said that the King put a potato flower in his buttonhole, and the Queen in her hair, sparking a new fashion trend. The flowers were part of an attempt to persuade French people to eat this strange new food.

Hunger was a big problem in Europe in the 1600s and 1700s. Famines occurred more than once every 10 years during this time in France and England. Many people died. The potato changed all that. The potato crop often survived when grain crops failed. The potato also provided people with more calories and nutrition than grain. By the late 1700s, potatoes were being grown and eaten by people living in a 3,200 km area that stretched from Ireland to Russia. Thanks to all this potato production, hunger in Europe almost disappeared.

In 1845, *Phytophthora infestans*, a potato disease commonly called late blight, arrived in Europe. It spread to many countries including Ireland. At that time, more than 40% of Irish people were surviving on a healthy, if rather boring diet, of only potatoes and milk. The blight ruined up to half of the potato crop in 1845, and about three-quarters of the crop over the next seven years. That is almost 75% of the entire crop!

This time is known as the **Irish Potato Famine** or the Great Hunger. By the time it ended in 1852, it had caused the deaths of about one million Irish people. If the United States were to have such a famine today, it would kill almost 40 million people. That is more than the entire population of Canada today!

*Phytophthora infestans* means vexing plant destroyer.



The famine also forced another 2 million Irish to leave their homes as refugees. Many came to Canada.

Over time, the crop did recover. However, the population of Ireland, which was over 8 million before the Irish Potato Famine, remains well below that today.

### CANADA

Europeans brought the potato to the colonies in Canada. Potatoes were first grown by settlers in New Brunswick as early as the mid-1600s. In Prince Edward Island, the British introduced the potato in 1758. As in Europe, the potato, over time, became popular in Canada too.

Today, Canada ranks as one of the world’s top 20 potato growers. Potatoes are a large portion (36%) of all fresh and processed vegetables eaten in Canada. The potato is grown by farmers in all 10 provinces. In 2018, the top 3 provinces in potato production were Prince Edward Island (PEI), Manitoba, and Alberta.

## LOOKING TO THE FUTURE

Today, to avoid horrible events like the potato famine that occurred in Ireland, scientists and farmers have found ways to use pesticides to keep diseases from destroying the potato crops. Pesticides are like medicine for plants, helping them to be healthy, grow and produce food for us to eat.

However, just as some human diseases are resistant to antibiotic medicines, plant diseases are becoming resistant to pesticides. Scientists have developed genetically engineered (GE) potatoes. These potatoes have a gene that protects them from getting sick with late blight. Farmers don't need to use pesticides to keep them healthy. These GE potatoes are better for the environment, farmers and consumers. In 2017, Health Canada approved these GE potatoes, so farmers can now grow them in Canada.

What's next? How about growing potatoes on Mars! The International Potato Center and NASA are doing experiments to see if potatoes can grow under Mars like conditions. First results are positive.

Potatoes created for the extreme conditions on Mars can also help farmers here on Earth deal with changes in growing conditions caused by climate change.

Looks like the potato will be keeping us well fed well into the future.



In 1995, the potato became the first vegetable to be grown in space! Seed potatoes were grown on the Space Shuttle Columbia.

## TEST YOUR POTATO KNOWLEDGE

1. List the nutrients that are found in a potato.

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2. Where did wild potatoes first grow?

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3. How are wild potatoes different from the potatoes we eat today?

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4. In what countries were potatoes first farmed?

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5. Why was chuño an important food for the Incas of South America?

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6. The potato arrived in Europe in the late 1500s. How did the potato get to Europe?

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7. Hunger was a big problem in Europe in the 1600s and 1700s. Once people started eating potatoes that changed. How did potatoes help solve the problem of hunger?

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8. What happened in Ireland between 1845 and 1852 that cause Irish people to move to Canada?

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9. Who brought potatoes to Canada?

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10. In Canada, what provinces are the top 3 potato producers?

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11. What do farmers use to treat potatoes for late blight, the disease that caused the Irish Potato Famine?

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12. In 2017, Health Canada approved a new GE potato

a. What does GE stand for?

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b. How is the GE potato different from other potatoes?

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13. Antoine-Augustin Parmentier used the King and Queen of France to promote the potato in the 1700s. If you wanted to promote eating potatoes to Canadians today, what celebrity would you use? Explain why.

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