

UNPRETENTIOUS POTATO

QUIETLY GOES ABOUT FEEDING THE WORLD

Ted Craig

The humble potato (*Solanum tuberosum*) is the world's most important vegetable and is the fourth most widely consumed staple crop in the world after rice, corn, and wheat.

Commercially produced in over 100 countries, potatoes are consumed by a billion people and provide significant amounts of potassium and vitamin C and yield more food value per acre than any other crop grown.

Potatoes were first domesticated in the Andean highlands between Peru and Bolivia more than 10,000 years ago. There are more than 4,000 native varieties of potatoes, found mostly in the Andean region. There are also over 180 wild species that are too bitter to eat but contain certain useful

pest and disease resistance traits.

Today, most of the approximately 100 popular cultivated varieties descended from potatoes that originated in south-central Chile. Contrary to popular misconception, potatoes are not roots but the swollen underground tubers of the plant's stem used to store food and genetic information. They are a member of the nightshade family, which also include tobacco and tomatoes. Sweet potatoes, on the other hand, are a true tuberous root crop and are related to morning glories.

The Spanish conquistadors discovered potatoes when they arrived in Peru in 1532 and observed the Incas eating chuño, a freeze-dried potato product. Potatoes were soon a standard staple food on their ships, and the sailors who ate potatoes did not suffer from scurvy, a disease associated with too little vitamin C.

After the arrival of the potato in Spain in 1570, a few farmers

began to cultivate them on a small scale.

Throughout Europe, these ugly, misshapen vegetables were initially regarded with suspicion and considered unfit for human consumption. They were used only as animal feed and sustenance for starving peasants. Potatoes eventually became popular with the upper classes in Europe and took the place of other crops as a food staple as it was a more reliable and better producing crop.

Irish Blessing, Curse

Populations thrived and grew wherever the potato traveled. If you have Irish American friends, thank the lowly potato. Potatoes allowed the Irish to feed the growing population, which doubled to eight million between 1780 and 1841. Unlike grains that required threshing and grinding, potatoes could be easily planted,

harvested, and cooked.



Nutrition powerhouse, humble potato!

One medium-size skin-on potato contains about 110 calories per serving, contains 4 grams of fiber, more potassium than a banana, and provides almost half the daily value of vitamin C. Baked, they contain no fat, sodium, or cholesterol. They are easy to grow, cook, and

are well-liked across all age groups.

Americans eat approximately 77 pounds of potatoes per person per year, according to the U.S. Potato Board. Potatoes provide food security for millions of people across South America, Africa, and Asia.



Ironically, this dependence on potatoes was responsible for one of the largest famines of the last 200 years when the potato blight hit Ireland in 1845 destroying the crop for three consecutive years. The microscopic fungus *Phytophthora infestans* and heavy rains rotted the potato crops in the ground.

The blight caused a million people to starve and another million to immigrate to America, reducing Ireland's population by one fourth. Potatoes had supplied about 80 percent of the calories in the Irish diet. The poor had used potatoes not only to feed themselves but their animals, which provided milk, meat, and eggs to supplement their diets.

Made Popular by Jefferson

Although potatoes were first introduced to North America in 1621 when the governor of Bermuda sent potatoes to the governor of Virginia,

they were not widely grown until the early 1700s. They spread throughout the northern colonies but did not become widely accepted until Thomas Jefferson served them to guests at the White House. Thereafter, the potato increased in popularity. This surge in popularity was strengthened by a flood of Irish immigrants to the New World. Potatoes spread west with pioneers and were a staple crop in vegetable gardens.

With the exception of plant breeders, we continue to grow potatoes from tubers that are genetically identical to their parents. People have been saving some potatoes from their last crop to use for spring planting for thousands of years. A seed potato cut into pieces that include at least one or two "eyes" will produce four or five plants, and each plant can produce 3 to 5 pounds of potatoes.

SHOULDER OVER, IDAHO; POTATOES ALSO THRIVE IN WYOMING

Wyoming is ideal to grow seed potatoes because of the state's isolation; diseases are not easily spread to the state.

Approximately 885 acres of seed potatoes were planted in southeast Wyoming last year and yielded approximately 40 million pounds of certified seed potatoes. Most of the potatoes grown here are shipped out of state to other potato growing regions in the U.S. and Canada.

Look for certified disease-free seed potatoes to plant as they are tested for diseases before receiving a "disease-free" certificate. Without this, diseases could be introduced into the crop or soil. I recently saw some potatoes at a farmers market that were infected with *Streptomyces scabie*. They were fine for eating, but I would never use them as seed potatoes; they would infect my soil for years. Potatoes purchased in the grocery store are not suitable for use as seed stock, either, as they have been treated with a sprout-inhibitor that prevents the potatoes' eyes from developing.

Potatoes grow best in a loose, well-drained soil with lots of organic matter to aid in moisture retention and allow for expansion and growth. Pre-sprouting the seed potatoes before planting can help increase yield and reduce chances the seed potatoes will rot in the soil

if the weather turns cold and rainy. Plant after the last average frost date.

How to Grow

Backyard gardeners have used a variety of methods to grow potatoes. They include the row method, raised beds, straw mulch, old tires, and even garbage bags. As a rule of thumb, growers using the row method typically leave a foot between plants in rows that are 2 to 3 feet apart and cover them with 2

to 3 inches of soil. When the potato plants grow to about 6 inches, they bring soil up around the vines from both sides using a rake or hoe. This is called hilling. The additional soil allows the tubers to expand easily on the buried part of the stems.

You can start harvesting a few new potatoes when the plant starts blooming. Dig carefully into the side of the hill and feel for potatoes. When the foliage of the plant has died back, the skin of mature potatoes won't rub off so they store better and are ready for harvest.

How to Store

Potatoes are best stored between 35 and 40 degrees in a dark area to keep light from reaching them and to keep them dormant. Sunlight will cause potatoes to produce a toxin (alkaloid solanine) turning them green and making them inedible. Properly stored mature potatoes can keep until the spring, which made it a popular storage crop for pioneers to put in root cellars.

Growing your own potatoes will allow you to experience the taste and texture of varieties other than those found in the grocery store. But even common store varieties like the Russet, Superior, or Pontiac just taste better when you grow them yourself.

Say "Spud!" and **Ted Craig** will know what you mean. He's the agriculture program coordinator with the Wyoming Department of Agriculture and can be reached at (307) 777-6651 or at ted.craig@wyo.gov.

