

Endangered Foods

French Fry Famine? Part Two in an ongoing series.

STORY BY *Pria Graves*

PICTURE THE PERFECT FRENCH FRY: long, straight, golden-brown and crisp, the iconic American food. Millions of fries are consumed daily all across the country. Could this tasty treat vanish from our tables (and cars!)? Well, yes... and no.

The origins of the potato, high in the Andes, are somewhat mysterious. It's not clear why early man bothered trying to eat potatoes since they were bitter and toxic, but bother they did and we are their beneficiaries.

The Andes are a challenging place to farm, tiny plots on the sides of the mountains, each with different conditions. Farmers selected varieties adapted to these patches of land: today there are about 400 different varieties and each household may plant 30 or more.

In the late 16th century, European sailors began bringing potatoes home, a useful food for the journey, lasting well and easy to prepare. They were also easy to propagate: while potatoes do set seed, typically small pieces of the tubers from the previous crop are planted, and the new plant sprouts from the "eye". These new plants are genetic clones, identical to the parent.

Initially the potato was not well received but gradually its popularity grew particularly in Ireland. With this new source of calories, the Irish population began to explode, tripling to 4.75 million by 1791! Around 1800 a variety called the 'Lumper' was introduced, not "good", having a soft, watery quality, but much more productive than the tastier varieties. It soon became the most commonly grown variety in Ireland, continuing to fuel the surge in population. By 1841, the population had soared to 8.5 million, 90% of whom were completely dependent on the potato.

And then, everything changed in the blink of an eye!

Late Blight, *Phytophthora infestans*, arrived, and within a few months practically every potato had rotted. Plants wilted and died and even potatoes in storage turned to black slime almost overnight.

Since the vast majority of potatoes grown in Europe and North America had descended from the same original introductions, all were susceptible to the Blight, but nowhere was the problem so dire as in Ireland. Over the next three years more than a million Irish died of starvation and thousands of others went blind or insane, lacking the vitamins potatoes had supplied.

Meanwhile, across the Atlantic, plantsman Luther Burbank was working with a new, blight resistant stock, the Garnet Chile (named for its origin). Soon he had produced the perfect fry potato, the Russet Burbank! It had the right consistency, was large and uniform, AND it was blight resistant. The iconic fry became possible.

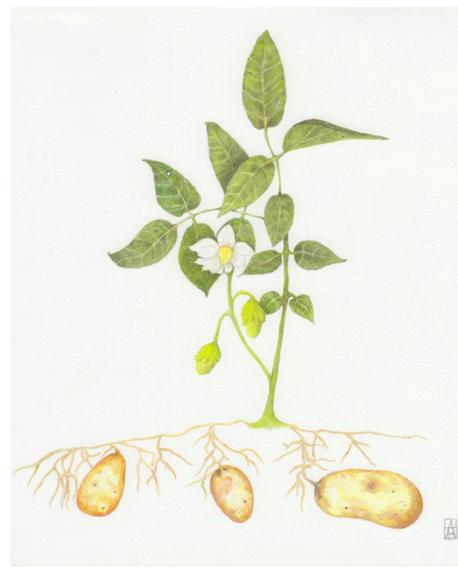
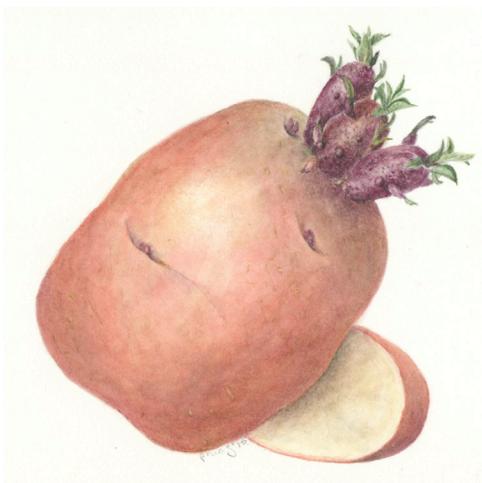
For many generations the Burbank retained its blight resistance but the potatoes are genetically unchanging and Blight has been evolving: it is now able to attack the Russet Burbank. As of 2009, farmers were spending \$2 billion per year on chemicals to combat the Blight.

So, could the French fry disappear? If the chemicals to combat the Blight can't keep up, the Russet Burbank could go the way of the Lumper. And if we insist on that archetypal fry, a French fry famine is possible!

Thankfully, there are lots of other potatoes around. If you are fortunate enough to have a farmers' market, you may find a dozen or more interesting varieties including some that can be used for fries, although none quite match the perfection of the Burbank.

One interesting heirloom that you won't find at your market (yet) is the Bodega Red. It appears to have arrived in California in the 1840s and DNA testing indicates that it differs from all modern red potatoes. Barges carried mountains of them to San Francisco and soon everyone was eating this delicious red potato. Unfortunately, it, too, is vulnerable to Blight and vanished in the 1970's. But potatoes sometimes linger, and a few tubers were rediscovered years later. It's being propagated now, with the hope of reintroducing it to home growers soon. Let's hope we can all taste it soon.

Unfortunately the Bodega Red is not the answer to the French fry famine, but somewhere, a unique variety may provide the solution. Potatoes come in a multitude of shapes, long and thin, squat round or coiled, and colors from white to black with shades of red, yellow and blue in between. Please join me in growing, eating, drawing and painting these amazing plants! 🍷



LEFT. *Solanum tuberosum*, Bodega Red, watercolor on paper, 5"x5.5", ©Pria Graves, 2015. **ABOVE.** *Solanum tuberosum*, Russet Burbank Potato, colored pencil on paper, 14"x11", ©Adrienne Bowes, 2014.