

# Potatoes have a rich history and importance

By Robert Lender  
and Arthur O. Tucker

In researching the potato, I was amazed to find hundreds of cultivars available. Potato cultivars are classified according to the date when they are normally marketed, either early (new potatoes) or maincrop, and further classified by tuber color and shape.

Potatoes originated in the mid-Andes of South America about 4,000 to 7,000 years ago from wild species that were very high in toxic, bitter alkaloids. Modern potatoes originated at the end of the 19th century based upon the original Adigena introductions, supplemented by later accessions. The main aims of potato breeding today are increased disease resistance, which is usually correlated with higher levels of alkaloids, but not toxic to humans.

To name a few of the most common varieties in home gardens, the white-skinned (actually very light brown) and red-skinned cultivars stand out. "Russet Burbank" is the most important commercial variety produced in the United States; Maine is the top potato producer in the U.S. Today, at some upscale grocery stores, we can also buy yellow, blue and red potatoes. Some seed houses, such as Seed Savers Exchange, also offer a plethora of cultivars of different shapes, sizes and colors, but don't be surprised if the colored potatoes lose their color on cooking.

Potato ranks with wheat and rice as one

## Garden Tales

of the most important staple crops in the human diet around the world. The white potato is referred to as the "Irish Potato" because it is associated with the potato famine in Ireland in the 19th century. This socio-economic event was primarily caused by reliance upon potatoes as a primary food for the Irish; the famine was triggered by the accidental introduction of a fungus, *Phytophthora infestans*, that caused potatoes to rot in the fields.

Potatoes are among the earliest vegetables planted in the garden. Potatoes used for planting are called "seed potatoes," although botanically they are tubers, not seeds. Because potato tubers are actually underground stems, the young shoots develop from the buds or "eyes" of the potatoes. Early midseason and late varieties all may be planted in March or early April. Potatoes planted in March may be frozen back to the ground by late frost, but plants usually recover fully.

These are a few questions I have encountered in researching the potato:

**Q.** What causes green skin on my potatoes?

**A.** The green areas on tubers develop where the potato was exposed to the sun.

This condition occurs when the potatoes were not planted deeply enough or were not covered with straw. Exposure of potato tubers to fluorescent light or sunlight causes greening during storage. The green portions taste bitter because they contain moderately poisonous alkaloids, particularly solanine. Due to the potential of toxicity, green potatoes should be discarded.

**Q.** Do potatoes (and other members of the family Solanaceae, such as eggplants, and peppers) cause arthritis?

**A.** While Norman Childers and others published articles and books linking solanaceous vegetables to arthritis, no scientific evidence has been forthcoming to support this assertion.

**Q.** Can I make chips from homegrown potatoes?

**A.** Yes. Almost any potato variety can be used to make chips when the potatoes are freshly dug and starchy. Commercial chips are made from selected varieties that are naturally high in solids, carefully handled and properly stored to preserve starch and avoid buildup of sugars. Chips made from potatoes stored at low temperatures for long period are brown or have a dark ring because they contain excessive amounts of sugar. Note that potato skins are high in alkaloids, and if you normally consume an excessive amount of potatoes, then some researchers at the USDA have advised against consuming the skins.

**Q.** Can I use grocery store potatoes for planting?

**A.** Probably not. They may have been treated with a sprout retardant, in which case, they will not grow. Even if they are sprouting, they have not been inspected and certified free of disease. While results occasionally may be acceptable, the risk of introducing a nematode, disease or other pest is much higher than from quality-certified seed potatoes.

*Robert Lender is a retired electrician who lives in Milford. He is a graduate of Delaware Cooperative Extension's 2009 Master Gardener's Program. He has gardened all of his life and his interests encompass all areas of horticulture. For gardening questions, contact one of the Master Gardener Helplines (beginning March/April): Sussex County, 302-856-2585, Ext. 535; Kent County, 302-730-4000; and New Castle County, 302-831-8862.*

*On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware's center for research, education and outreach about plant identifications, locations and uses. Call 302-857-6452 (Dr. Susan Yost) to arrange a tour of the Herbarium, and call 302-857-6408 (Dr. Arthur Tucker) for more information about this article.*