

# Nevada

## Potato (*Solanum tuberosum*)



### Vocabulary

- Acre** An acre of land is 10 yards less than the area of a football field from goal line to goal line, or 43,560 square feet.
- Tuber** A modified enlarged stem of a plant which develops at the tip of a stolon. Examples: potatoes, sweet potatoes, yams and Jerusalem artichokes.
- Seed potato** A potato that is grown to be planted and produce new potato plants. A **certified seed potato** is grown in a program to ensure genetic purity and freedom from disease.
- Eye** An eye of a potato is a **bud** or growing spot for a new plant.
- Stolon** A slender horizontal stem of a plant that grows on or near the surface of the ground.. A stolon produces buds or nodules that can become new plants. Potato tubers grow at the end of stolens.

### Nevada Potato Facts / General Information

- Nevada's warm days, cool nights and good soils provide excellent growing conditions for potatoes.
- Potatoes are the number one row-crop in Nevada, followed by onions and garlic. Other row crops are grown but to a much lesser extent.
- In 2001, Nevada ranked 17th in the nation for potato production.
- It takes 2,200 pounds of seed potatoes to plant an acre. Large seed potatoes may be cut into thirds prior to planting. One pound of seed potatoes will produce over 20 lbs. of potatoes.
- A good producing Nevada acre will grow 55,000 lbs. of potatoes. Nevada averages 44,500 lbs. per acre.

- Almost all of Nevada's potatoes are grown in Humboldt County.
- An average plant will produce 8 potatoes.
- Russet varieties are the most common varieties of potatoes planted in Nevada.
- The potato was the first vegetable to be grown in space.
- There are several hundred varieties around the world. Potatoes are hardy and will grow in most soils except **very** heavy clays or wet undrained soil.
- The color of the inside of a potato varies depending on the variety. Colors include gold, blue, purple, red, gray and black.
- When a potato starts to turn green, it is producing chlorophyll and getting ready to grow. The green outer layer can be poisonous.
- Potato varieties are developed by crossing plants. Potato tubers from the new plants are cut into pieces and planted to grow about more seed potatoes. It may take several years to end up with enough seed potatoes to release the new variety for commercial farms.
- Potatoes can be stored for months with proper temperature, proper humidity and good air circulation. Potatoes are not washed until just before they go to the supermarket. This is because soil helps protect and preserve potatoes.

## **History**

Potatoes came from South America. As early as 3,000 BC, potatoes were grown by the Incas high in the Andes Mountains. They were gold, red, blue, gray or black in color and ranged in size from a nut to an apple. Incas treasured potatoes because they were easy to grow in the harsh mountains. The Incas even freeze-dried some of their potatoes.

Spanish Conquistadors invaded the Incan Empire in the 1530's and brought potatoes back to Spain. Potatoes first came to the United States about 1719 when a group of people from Ireland came to live in New Hampshire. However, it took more than 20 years for potatoes to be widely accepted. Many people believed that potatoes shortened your life. The potato is a member to the deadly nightshade family, and people probably thought the tubers were poisonous like the leaves.

## **Production Cycle in Nevada**

Soil must be plowed deeply and thoroughly for best results. Pieces of seed potatoes are planted 4 to 6 inches deep between April 15 and May 15. There must be an eye or bud in each piece for the plant to grow. It takes 2,200 lbs. of seed to plant an acre.

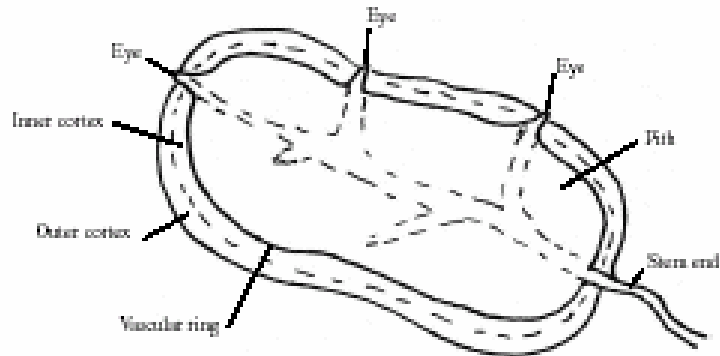
Potatoes are planted on mounds in rows. Soil and plants are monitored to make sure all required nutrients are available for the plants. Water is applied by sprinkler or by running it down the rows. Potatoes are cultivated during the growing season by rolling soil over the mounds to cover the potatoes, which may become exposed as they grow. Potatoes are harvested mechanically from around September 1 to October 15.

## **Potato Products:**

- potato chips
- dehydrated mashed potatoes
- French fries
- fresh potatoes for restaurants and grocery stores
- animal feed
- ingredient in: vodka; cake flour; paste; breading for fish sticks, chicken and other fried foods; starch; dye

## Nutrition

Potatoes are nutrient-rich vegetables, full of carbohydrates, and don't contain any fat. A 5-ounce medium potato, either baked or boiled with the skin (outer layer) provides the following Recommended Daily Values: 45% Vitamin C; 21% potassium; 10% thiamin; 8% niacin; 14% Vitamin B6; and 14% folacin. It also contains three grams of fiber, four grams of protein, iron, magnesium, phosphorus, and pantothenic acid all in only 150 calories. Frying or boiling without the skin will cause some loss of vitamin C.



Potato tuber anatomy—Each eye is “attached” to each tissue layer within the tuber.

## Activities

**Reproducing plants from parts of plants:** Demonstrate that plants can be grown from different parts of the plant, such as tubers, corms, seeds, stems, rhizomes, etc. Have students fill several 4-inch plastic garden pots with a quality potting soil mix. Provide students with a potato, various plant seeds, a garlic bulb, a flower bulb and grass rhizomes (underground stems). Stems from several houseplants will root and grow readily also. Cut the potato into two or three pieces with an “eye” or bud in each piece for planting. Split the garlic into individual cloves. Plant the seeds, cloves, bulbs, potato pieces, grass rhizomes, and garlic cloves in pots and keep moist. When plants emerge, discuss how plants can grow from several different parts of the plant. More advanced classes could include discussions on sexual reproduction (seeds vs. vegetative), including differences, advantages, disadvantages, and how each is used in food production in the U.S.

**Potato prints:** Cut a potato in half. Use the flat surface to make the print. The design you wish to print can either be cut into the surface or can remain raised from the surface with the balance cut away. Use either washable printing ink (spread with a brayer) or a thin layer of acrylic paint on a plastic plate. Dip the potato and print. Make pictures or your own wrapping paper by using a roll of white freezer paper to print.

**Potato People**—Supplies needed: potatoes, ribbon, pipe cleaners, lace, trim, buttons, glue, scissors, scraps of material and old nylons. Slip a section of nylon over each potato – twist at bottom and slip back up – tie at top. Turn the imagination loose.

## Additional Resources

Contact your local county, University of Nevada Cooperative Extension, or your USDA Natural Resource Conservation Service. <http://www.cipotato.org/>

*“Humboldt County, Nevada Potato Field,” photo courtesy of Winnemucca Farms.  
Published by the Nevada Heritage Foundation, (nonprofit 501(c)3)  
“Understanding Agriculture Through Education.”  
2165 Green Vista Drive, Suite 205, Sparks, NV 89431.*