

Mountain Potato Growing



Solanum tuberosum, the cultivated potato, originated in the Americas. Wild relatives can be found from the southern US (38°N) to Argentina and Chile (41°S). Potato cultivation began in South America at least 8,000 years ago, thousands of varieties are still grown.

Potatoes were introduced to Europe by Spanish conquistadors in the 1600's and by the end of that century, potatoes had been introduced into the UK and Ireland, where they transformed society and literally fed the industrial revolution.

Records of potato breeding in Europe begin in 1807 and overreliance on just a few varieties resulted in the Irish potato blight of 1845. Disease resistant cultivars were soon developed and several are still popular today.

Potatoes yield more food, more efficiently than any other crop. Approximately 85% of the biomass of a potato plant is edible (cereals occasionally reach 50%). **Potatoes are the most productive food crop per unit area in the world**, yielding 5600 kcal/m³ (double that of wheat @ 2300 kcal/m³)

While not especially drought-tolerant, potatoes are water-efficient and produce more calories per unit of water than other crop: 2.2 lb of potatoes requires 231 lb of water compared to: corn@ 1565 lb, wheat@ 2555 lb, and rice@ 3104 lb.

Preparing the potato "seed": Seed potatoes are a specially grown virus-free crop that will produce more than twice the harvest of organic tubers from a grocer. Store in a cool, dark place.

With no chemicals to prevent sprouting, they may already have desirable sprouts so handle them carefully. Removal will delay vines and produce smaller tubers at harvest. Tubers the size of an egg or smaller, should be planted whole as "single drops." Fingerling "seed" are naturally smaller. Generally, the larger the seed piece, the larger the crop. Each piece should weigh ~2 oz with two to three strong eyes.

Chitting: Pre-sprouting seed potatoes (chitting) before planting encourages earlier growth and can reduce time to harvest by > two weeks. Spread out the seed tubers on nursery flats with the eyes (the "seed end") up. Keep warm (~70°F) w/ moderate light for a week or so and then move to a cooler location (~50°F) with bright light. Chitting

takes two-three weeks. Do not cut the seed potato before chitting. It will dry out. Cut three to four days before planting.

Chunking: Many US gardeners cut up larger potatoes into pieces before planting (after chitting). "Seed" pieces should be allowed to seal over for a few days prior to planting. Spread the cut pieces out on a nursery flat / tray, (out of direct sunlight to avoid shriveling the seed pieces). Powdered sulfur protects cut surfaces from fungal infections. Put a teaspoonful in a paper bag with the pieces and gently tap on the bag (be very careful dusting cuts if pre-sprouted). In our sulfur-poor soils, this dusting has multiple biological, nutritional, and chemical benefits.

Prepping Potato Soil: Potatoes thrive in loose, rich, deep, and well-drained loam. But we have grown potatoes successfully in a pile of old pine needles, in straw and in compost. Potatoes are very adaptable and will usually produce reasonably well in anything short of clay mud.

All soils should be deeply amended by incorporating organic compost like Amend or Gromulch to lighten, aerate, and improve moisture and nutrient holding capacity.

Potatoes do best in soil with a pH ranging from 5.2-6.8. Alkaline soil will tend to make them scabby. Sulfur can help maintain a lower pH.

Fertilization: Potatoes appreciate a little calcium (lacking in our soils). Lime is best applied in fall to "mellow-in" over winter. Oyster Shell or Dolomite should be used sparingly if applied at planting as lime buffers pH.

Potatoes need additional nutrients. Add Biosol and G&B vegetable fertilizer along with the composts. Potatoes given excess nitrogen grow lush vines with few tubers. Organic gardeners use cottonseed and alfalfa meals to feed and help maintain a lower pH.

Slow-release nutrients incorporated at planting, additional organic fertilizer or a few foliar feedings after emergence (& until blooming ends), will increase yields. Try 1 oz of N per 20' of row (divided into 4 applications). (e.g. Biosol @ 7% N: 1oz/.07=14oz / 20')

Potatoes gain their nutritional value, in part, by very efficiently extracting nutrients from the soil. They are also susceptible to solanum specific viruses that increase in their soil. For these reasons, practice crop rotation, planting in different locations for 3-4 years.



Planting: The ideal soil temperature range is from 55°-70°F. A small planting of the earliest potatoes may be attempted in mid-April with ample mulching. Plant more in May. Row and spacing varies in each garden. As little as 18" between rows with plants 10"-12" apart works.

Dig a shallow trench ~6" deep and place the spaced seed pieces in it. Cover the seed with 2-3 inches of soil. Do not fill the trench.

Watering: Minimally irrigated potatoes taste better and the skins are tougher (store better). Potatoes grown this way may also have a higher protein content. They should not be allowed to completely dry out.

Growing: The nightshade family includes tomato, eggplant and pepper and like these crops, potatoes are susceptible to frost. In Truckee we have no reliable "average last date of frost" so, like your beans and zucchini, be prepared to cover your potato plants. **Have frost protection (row-cover) fabric on hand.**

Hilling: Sprouts emerge about two weeks after planting, depending on the soil temperature. When the stems are about eight inches high, gently fill the trench, cover ("hill") the vines, and shallow roots with soil and compost from around the plants. Leave about half of the vine exposed. Hilling keeps the root system deeper in cooler soil. Tubers form between the seed piece and the soil surface. Hill again every two to three weeks. Use an inch of soil in subsequent hilling, and be sure forming potatoes are never exposed to sunlight because green potatoes are toxic.

Avoiding Pests: The best defense is a good offense; maintain healthy vigorous vines.

Soap and neem will treat aphid infestations. Compost teas seem to reduce many insect and disease problems while feeding the plants.

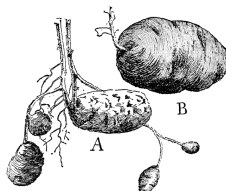
Avoid un-composted animal manures, alkaline soil, and water logging. Avoid scab and improve pH and nutrient availability by incorporating sulfur into the soil several weeks before planting.

Remember, avoid planting spuds in the same ground more than once in three years. Other nightshades should not precede or follow.

Harvesting: About two months after planting the earliest varieties begin to bloom, indicating that "new potatoes" might be ready. Gently harvest this small early crop with as little disturbance to the root system as possible. The ideal time for the **main harvest** is when the

vines are dead, usually after a heavy frost. Drier soil allows for cleaner harvesting with less effort. After the tops are dead, and depending on temperatures, rest the tubers in the ground, undisturbed for a week to "cure," while the skins toughen up to protect the tubers from bruising in storage. Minor injuries in the skin may heal if allowed to dry.

Place your spading fork outside the hill to avoid stabbing any potatoes. If the soil is wet, let them air-dry on the surface for a few hours or days before gathering. If the weather is poor and harvest is essential, let them air-dry before storing. "Field-grade" your harvest. Separate and toss (or roast immediately) any blemished, scabby, misshapen, or injured tubers. Do not store cut or damaged tubers with good ones; they will rot any potatoes near them. Eat them.



Storage: Keep potatoes in the dark at 36-40°F., with good air circulation (don't forget, they're alive).

Varieties: We offer a dozen or so varieties every season, organic whenever possible, in several colors and sizes and we think all of them are delicious and productive in our climate.

Potatoes are the 3rd most important food crop in the world (human consumption), behind rice and wheat. (<10% of corn is consumed by us).

A medium 5.3 oz potato contains 30% of daily vitamin C needs, more potassium than a banana, 26g carbohydrates, 3g protein, 2g fiber, as well as iron and B6. One potato offers 110 calories and is fat-, sodium- and cholesterol-free.

Organic Gardening Notes

"Soil amended with mature compost is like a large house where roots comfortably reside. They have a kitchen, pantry, and cold storage with a few basics. Organic fertilizers provide the bulk and raw foods in the pantry and storage. Beneficial microorganisms in fertilizers populate the home like gardeners, chefs, security guards, and caretakers for roots living there." - e

Villager
nursery inc.

10678 Donner Pass Rd, Truckee, CA 96161

P: 530-587-0771

E: info@villagernursery.com

Instagram: @villagernursery