

Cultural Practices

Planting

Home gardeners can grow potato plants from whole tubers, called seed tubers, or from pieces of a tuber with at least one “eye.” Many garden stores carry certified seed potatoes, so seed should not be difficult to find. You may have to consult a local Extension educator to find a source for some exotic varieties. Buy your seed in early spring to be sure you get what you need. You will need 8 to 10 pounds of seed potatoes for each 100 feet of row. For best production, seed tubers and/or seed pieces should weigh about 2 ounces.

Potatoes germinate and emerge best when daytime soil temperatures are consistently higher than 50°F. Plant seed 5 to 6 inches deep. Plant the seed tubers about 10 to 12 inches apart in rows 30 to 36 inches wide.

Although potatoes can be planted on flat ground, it is better to form a hill around the plant. Hills provide room for developing tubers to grow without being pushed out of the ground, causing greening by the sun. Hilling is also important for drainage. Potato hills can be formed at planting time by mounding dirt up around the seed piece, or they can be formed after the plants are up. It is best to hill within 4 weeks of planting.

Be sure to have good soil moisture at planting. If soil moisture is inadequate, lightly irrigate before planting to ensure rapid, early plant growth. Extremely wet soils, however, will increase the possibilities of seed piece rot.

Rotation

Do not plant potatoes in the same area of the garden each year. Doing this may predispose the plants to disease problems.

Irrigation

Potatoes require good soil moisture at all stages of growth. An uneven water supply can cause tuber problems such as knobs or growth cracks. Potato plants do not use much water early or late in the season, but they need a lot of water when the foliage is fully developed (late June through July).

Table 1. Potato varieties recommended for use in Idaho gardens.

Variety	Description	Maturity	Use	Comments
Red LaSoda	High yielding. Light red skin. Oval tuber shape.	Late	Fresh table	Wide adaptability. Deep eyes may make peeling difficult. Occasional hollow heart and growth cracks.
Red Norland	Medium yielding. Bright red skin. Round tuber type.	Early	Fresh table	Common garden variety. Some resistance to scab.
IdaRose	High yielding. Dark red skin. Round tuber type.	Late	Fresh table	Good cooking quality. Resistant to most internal disorders. Stores well.
Chipeta	High yielding. White skin. Oval tuber type.	Late	Chipping Fresh table	Resistant to scab and early blight. Excellent cooking quality.
Ivory Crisp	Medium yielding. White skin. Round tuber type.	Early	Chipping	Resistant to most internal disorders. Cooks well after being stored at cold temperatures.
Kennebec	Very high yielding. White skin, Oval to oblong tuber type.	Medium	Fresh table Chipping French fries	Shallow eyes. Susceptible to scab, blackleg, growth cracks, and hollow heart.
Russet Burbank	Medium to high yielding. Medium russet skin. Long tuber type.	Late	Fresh table French fries	The famous "Idaho Potato." Susceptible to stress induced malformations and diseases. Difficult to grow in the home garden. Stores well.
Gem Russet	Medium yielding. Medium russet skin. Long, cylindrical tuber shape.	Medium	Fresh table French fries	Excellent baking quality. Resistant to stress and shape disorders.
Ranger Russet	High yielding. Medium russet skin. Long tuber type.	Late	French fries Fresh table	Resistant to internal defects. Susceptible to scab. Occasional deep eyes.
Russet Norkotah	Low yielding. Medium russet skin. Long tuber type.	Very early	Baking	Attractive appearance.
All Blue	Dark blue-purple skin. Blue-purple flesh color.	Late	Fresh table	Exotic.
All Red	Light red skin and light red tuber flesh.	Late	Fresh table	Exotic.
Yellow Finn	White skin. Yellow flesh color. Oblong tuber type.	Medium to late	Fresh table	Old garden variety. Wide adaptability.
Yukon Gold	High yielding. Buff colored skin. Yellow flesh color. Oblong tuber shape.	Medium	Fresh table	Attractive appearance. Good culinary quality.

Plants take up most water from the top foot of soil. Check the soil in this part of the root zone to determine irrigation timing. If the soil looks and feels moist and forms a firm, wet ball when squeezed by hand, soil moisture is adequate. If the soil feels only slightly moist and forms a fragile ball when squeezed, apply 1/2 inch of irrigation water. Dry, loose, crumbly, or powdery soil in the root zone requires a 1-inch irrigation for sandy soils and up to 2 inches for loamy soils. Heavier soils need irrigation every 5 to 7 days, but more frequent irrigations may be necessary on sandy soils.

Sprinkler-irrigated potatoes benefit from light, frequent (3 to 5 days) water applications, especially when

temperatures are higher than 80°F. When using sprinkler irrigation, check the water application by placing a tin can near the plants, and after each irrigation, measuring the depth of the water accumulated.

Near the end of the summer, once the plants begin to yellow and the lower leaves start dying, reduce the irrigation rate. Too much water late in the season may predispose the tubers to rot. If the potatoes are to be stored, the vines should be pulled or killed to mature the tubers and to set the skin. The vines should be dead for 2 to 3 weeks before harvest. Potatoes that are to be used directly from the garden do not need to be matured.

Fertilization

Potatoes respond well to optimal levels of soil nutrients. Be careful not to overfertilize, especially with nitrogen (N). Excessive N will cause plants to produce too much foliage, and delay tuber growth. The best method to determine how much fertilizer to apply is to test the soil. (For more information, consult EXT 704, Soil Sampling.)

Part of the fertilizer should be applied before planting and part during the growing season. Broadcast about half of the total fertilizer requirement before planting when tilling the soil. Choose a balanced fertilizer, such as 5-10-10, 10-10-10, 16-20-0, or an organic form, such as compost. Potatoes will use about 0.38 total pound of N for every 100 square feet of garden space.

If using 16-20-0, for example, the fertilizer contains 16 percent N, 20 percent phosphorus (P_2O_5), and 0 percent potassium (K_2O). Therefore, for a 100 square foot area, apply 2.4 pounds ($0.38 \div 0.16 = 2.4$) of material (1.2 pounds at planting, another 1.2 pounds when the plants are about a foot tall).

Apply the preplant fertilizer uniformly across the garden area and incorporate into the top 3 to 4 inches with a rake. Broadcast the later application over the top of the plants and water it in.

Organic materials such as compost or manure can improve soil tilth and are beneficial to potatoes. Use only thoroughly decomposed or composted sources of manure because fresh manure can increase incidence of a disease called common scab. If noncomposted leaves or grass clippings are added to the soil, it may be necessary to add extra nitrogen fertilizer to help break it down. As a general rule, apply an additional 20 percent to the recommendation outlined earlier.

Pest Control

Several weed, insect, and disease pests can affect potatoes in a home garden. Examine regularly the potato plants to detect pest outbreaks before they become major problems. Many pests can be controlled without using chemicals, especially if detected early. Disease

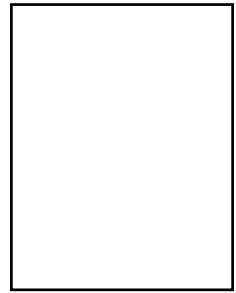


Fig. 1

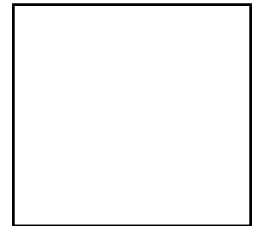


Fig. 2

