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FRUITS & VEGETABLES

Potatoes for the home garden

no. 7.610

by K.W. Knutson¹

Quick Facts...

Few vegetables yield more food per unit of growing space than the potato.

Skin color does not necessarily determine whether a potato is adapted for boiling, baking or frying.

Use certified seed potatoes for planting. Potatoes from the grocery store may be treated with sprout inhibitors and may not grow.

Potatoes prefer a light sandy soil with abundant soil aeration for the roots.

Allowed at least 2 1/2 to 3 square feet of garden area for each potato plant.

Growing potatoes can be an exciting challenge for the home gardener and an efficient use of limited space, since few vegetables yield more food per unit area. Observe a few simple guidelines to greatly increase the chance of success in growing this popular vegetable.

Varieties and Seed Source

Many potato varieties are grown in the United States and are available and adaptable for the home garden. Table 1 gives characteristics of some of the more popular varieties. Check with your Colorado State University Cooperative Extension county office for local varieties.

Usually, home gardeners prefer an early-maturing variety in order to get fresh potatoes as soon as possible, as well as having the additional yield to store for winter use. However, growing location and personal preference may result in choosing a medium or late-maturing type.

The skin color does not necessarily determine whether a variety is adapted for boiling, baking or frying. In other words, not all reds are for boiling only or all russets or whites for baking only. Potato varieties differ in adaptability for culinary use, but growing conditions and tuber maturity also can be of great influence. Experience with potatoes from the home garden will be the best basis to determine type of table use.

Source of seed potatoes often is a problem for home gardeners, since potatoes are quite perishable and garden supply stores hesitate to stock large amounts. Certified seed potato growers are becoming more aware of the home gardener's needs and many garden and patio shops are beginning to have improved selection of varieties and supplies.

If at all possible, purchase certified seed since it is the best assurance of productive stock. Avoid potatoes from the grocery store produce department since many of them are treated with chemical sprout inhibitors and will not grow. Also, they may have become contaminated with potato disease organisms during the handling and marketing process.

Soil and Fertilizer

Potatoes prefer a sandy or sandy loam soil that will not easily become water logged. Potatoes need abundant soil oxygen and do not thrive in tightly packed soils. If the garden has a heavy soil, sand and/or sphagnum, peat moss can be added to provide a more mellow condition.

Home garden soils vary widely in fertility and unless a good soil-building program that ensures adequate plant nutrition is followed, it would be well to add a complete fertilizer containing nitrogen, phosphorus and potash. There are no strict rules regarding how much fertilizer to add. A mix of about 1 to 1-1/2 tablespoons

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of a 12-12-12 formulation (or its equivalent) in the soil for each potato seedpiece planted will provide a reasonable amount of plant nutrients. (Caution – fertilizer can burn the seed-piece; mix fertilizer with soil before planting.) Manure and compost also will add fertility and aid soil tilth. However, it should be fairly well decomposed, since large amounts of raw organic matter can actually compete with the potato for nitrogen and may aggravate a soil-borne disease called common scab. (For more information on fertilizers for vegetable gardens, see 7.611, *Fertilizing the vegetable garden*.)

Potato seed actually consists of small tubers or pieces of tubers that are cut from larger tubers.

Table 1: Some popular potato varieties.

Variety	Approx. maturity range	Tuber shape	Tuber color
Russet Norkotah	early	oblong	russet-brown
Superior	early	round	white
Irish cobbler	early	round	white
Norland	early	round-oblong	red
Chieftan	early-medium	round	red
Red LaSoda	early-medium	round-oblong	red
Red Pontiac	early-medium	round	red
Kennebec	medium	round	white
Russet Burbank	late	oblong	russet-brown

Planting Methods

Keep tubers at room temperature at least one week prior to planting. The presence of sprouts 1/8 to 1/4 inch at planting will result in more rapid emergence.

Potato seed actually consists of small tubers or pieces of tubers that are cut from larger tubers. Seedpieces about 2 ounces in size are ideal. This usually means a small tuber about the size of a medium egg or a cut seedpiece of equivalent size. There should be at least one eye on each seedpiece. It is not necessary to chemically treat the cut seed before planting if it is planted into moist soil (having a temperature of 50 degrees) within several hours after cutting.

Proper watering is one of the most important factors contributing to good yield and quality.

The soil environment will promote healing of the cut surfaces and avoid decay in most situations. Chemical seed treatments are commonly used by commercial potato growers as an insurance against variable weather and soil conditions usually encountered in large scale production. Captan, maneb, zineb or polyram dust formulations (5 percent to 10 percent) may be used to dust the seedpieces prior to planting.

Plant the seedpieces 3 to 4 inches deep, 12 to 15 inches apart within the row, with rows 2 to 3 feet apart. Once again, there are not any strict rules, but allow at least 2-1/2 to 3 square feet for each plant.

It is not necessary at planting time to hill up. Start hilling about two weeks after emergence; complete it by the time plants are blooming.

When to Plant

Because potatoes are sensitive to frost, it is important to schedule planting no more than two to three weeks prior to the last spring frost unless the plants are protected. Plants frozen back usually will recover and produce a crop, but the yield will be reduced and development delayed.

General Care

Proper watering is one of the most important factors contributing to good yield and quality. From planting until tuber development is completed, maintain reasonably uniform soil moisture. Do not allow potatoes to wilt; as water stress approaches, the potato foliage will turn dark green and appear to droop during the

warmest part of the day. Water usage is greatest during the period of maximum vine growth. As tuber development nears completion, water needs will decrease even though the plant may appear green and active. Overwatering at this time can result in tuber decay.

Apply weed control early in the season. Hoeing or pulling the weeds is best since usually it is not practical to use chemical weed killers on small garden plots.

Avoid extensive hoeing or cultivating within 6 inches of the plants after they reach 8 to 10 inches in height because considerable damage to feeder roots can occur and reduce yield.

Disease and Insect Control

Foliage diseases on home garden potatoes usually are not a serious problem. Several types of leaf blight caused by various fungi are present in Colorado. Both can be controlled easily by two or three applications of fungicides, such as maneb or zineb.

Insect problems, on the other hand, are troublesome and can completely destroy the crop. Colorado potato beetles, flea beetles, psyllids and aphids are among the common pests that attack potato vines. The most important key to control is frequent inspection of the plants to detect early infestations. A general purpose garden insecticide applied as soon as insects are discovered and at recommended intervals thereafter should avoid most serious problems.

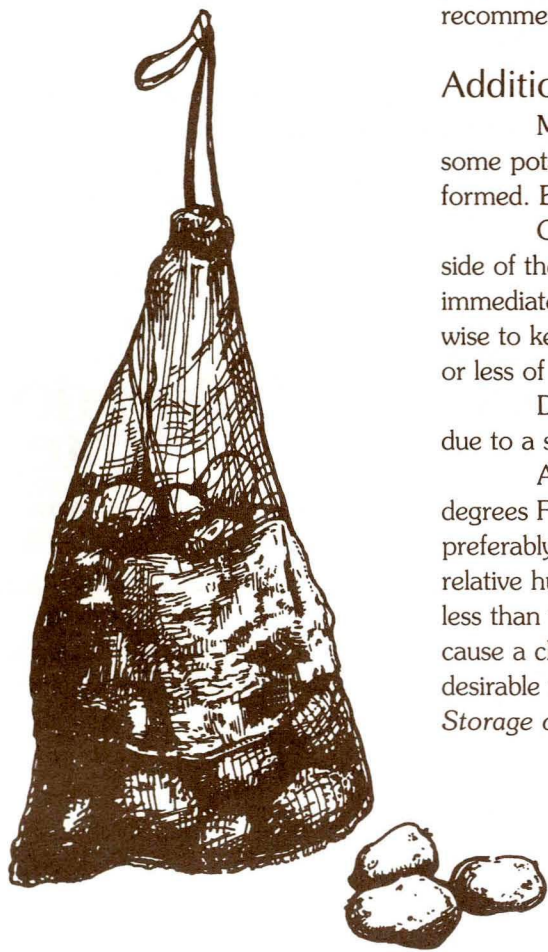
Additional Reminders

Most varieties of potatoes produce blossoms. However, the flowers on some potatoes, such as Russet Burbank, may fall off almost immediately after being formed. Blossom formation is not necessary before tuber development begins.

Check the size of tubers easily by carefully digging away the soil from the side of the hill. The soil must be replaced if the tubers are not harvested immediately. Potatoes can be harvested when 1-1/2 to 2 inches in diameter. It is wise to keep in mind, however, that the yield at this time will be about one-fourth or less of what eventually will develop.

Do not eat potatoes that have green skin. Such tubers may cause illness due to a substance called solanine created by exposure of tubers to light.

After harvest, store potatoes in a dark room at a temperature of 38 degrees F to 45 degrees F and a relative humidity of at least 75 percent or preferably about 90 percent. When the temperature is higher (50F to 65F and the relative humidity low - 20 percent to 40 percent), most varieties will deteriorate in less than three months after harvest. Extremely low temperatures (30F to 37F) will cause a chemical conversion of starch to sugars and will result in potatoes less desirable for eating. (For more information on storage of vegetables, see 7.601, *Storage of home-grown vegetables.*)



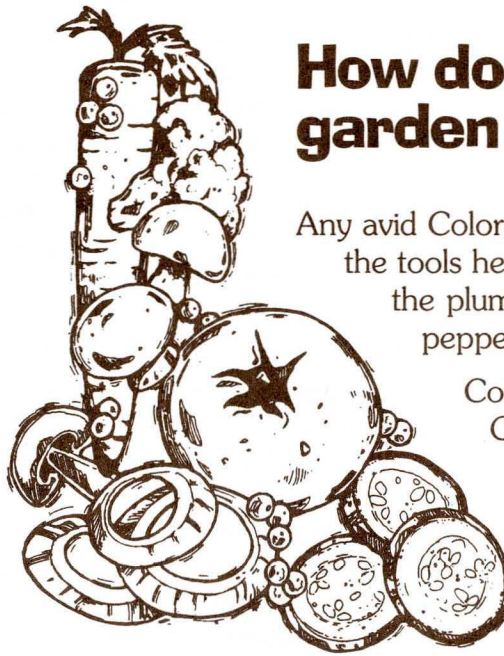
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