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Potatoes

The potato, S*olanum tuberosum*, is a warm-season perennial grown as an annual in Maryland. The species probably originated in the Peruvian highlands over 6,000 years ago. Potatoes grow best in a full-sun location, in well-drained soil high in organic matter with a pH of 6.0 to 6.5. Where potato scab disease is a persistent problem, a soil pH of 4.8 to 5.8 is recommended. Potatoes prefer cool springs and moisture throughout the growing season. Hard frosts and freezes will retard growth.

The potato plant remains upright and tender through the growing season and may reach 3 ft. in height. Tubers are enlarged, modified stems (not roots) that develop from the growing stem. Potato plants produce flowers and sometimes small potato-like fruits with seeds inside. However, the seed is extremely small and, if planted, will not come true to the desired variety. There are many cultivars with different coloration, inside and out. Potatoes can be grown as an early crop for new potatoes and as a late crop for storage. Choose an early-maturing variety and a medium- to late-maturing variety for a more continuous harvest.

Planting:
Plant potatoes in a sunny garden from March 15 to April 20, depending on your location. Seed potatoes can be planted through June 1 for an extended harvest. Purchase certified, disease-free seed potatoes from a reputable company. Seed potatoes should be firm and un-sprouted. Wilted and sprouted potatoes have reduced vigor. Last season's garden tubers and store-bought potatoes may be symptomless disease carriers and should be avoided.

Potato plants are reproduced vegetatively by planting seed pieces with 1 to 3 buds ("eyes") or small, whole seed potatoes in the spring, up to 6 to 8 weeks prior to the last expected frost. A 6-ounce potato can be cut into four seed pieces, each with at least one good bud or eye. Let pieces dry for a few days before planting to help avoid rot. You can also help prevent disease and insect injury by coating the seed pieces with elemental sulfur (place seed pieces and the sulfur in a bag and shake).

Or, try "green sprouting" for an even earlier start. Keep whole tubers in the dark at room temperature until they sprout. Then expose tubers to light to keep sprouts short. Cut into seed pieces and plant.

Plant the seed pieces (cut side down) or whole seed potatoes 8 to 12 inches apart and cover with 3 inches of soil. (later crops are planted 5-6 inches deep). Raised beds or mounded soil warms up earlier in the spring and allow for deeper root growth.

Cultivation:
Since the potatoes form above the planted seed potato it is important to keep loose soil pulled up around the main stem. Pull a ridge of soil over each row when planting. When the tops are fully grown, hill up soil over potatoes around the base of each plant to shield them from the sun, which can cause greening or scalding. Green portions on potatoes taste bitter and contain a poisonous alkaloid and should be cut off and discarded

- **Fertilizing**- Heavy feeder; apply a complete fertilizer before planting; side-dress about 6 weeks after planting when tubers begin forming (½ lb. 10-10-10 or equivalent per 10 feet of row).
- **Watering** - Uniform moisture required, especially while tubers are developing. Avoid overhead watering as it can spread fungal diseases. Too much or too little water is associated with many tuber disorders, including blackheart, cracks, and misshapen tubers.
- **Weeding**- Drag a hoe across the ridges just before the sprouts break through to eliminate weeds. Later cultivation should be shallow and far enough

from the plants to prevent damage. Apply a thick straw mulch, after hilling up the soil, to keep the soil cool and moist and to deter Colorado potato beetles.

- **Special Directions** - If you would like many small new potatoes, space plants as close as 9". If large storage potatoes are your goal space plants about 20" apart.

Harvesting:
Small, tender "new" potatoes can be harvested 6 to 8 weeks after planting, usually once the plants have flowered. Gently dig the soil around the young potatoes to avoid damaging the plant and bruising the remaining tubers. Tubers will continue to grow through the summer until plants are killed by frost, mowing, or insects and diseases. If you plan to store potatoes, leave tubers in the ground for 2 weeks after plants die back. This will allow them to develop a thickened skin. Dig potatoes very gently with a spading fork. Bruises and cuts sustained during the harvest will allow entry of soil borne fungi and bacteria that cause storage rots.

Storage and Preservation:
Medium cool (40°- 50° F), moist (90% RH) conditions; 6 to 8 months. Sprouting and tuber rots are a problem at higher temperatures. Storage potatoes are cured for 10 to 14 days at 50°F to 60°F and high humidity to heal over wounds and cuts. Carefully place tubers in storage containers using straw or newspaper to separate layers.

Nutrition:
A source of Vitamins C and B6, thiamin, niacin, potassium, and magnesium

Preparation & Use:
Scrub potatoes, pierce all over with a fork and bake or microwave to eat whole. Potatoes can also be boiled, baked, microwaved, sautéed, steamed, or roasted; with or without the peel, whole or cut-up. Higher starch varieties such as russet are best for baking and mashing; lower starch varieties such as red-skinned are best for potato salad and sautéeing.

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