

Potatoes

Potatoes are produced in greater quantities worldwide than any other vegetable. Members of the nightshade family, potatoes are related to tomatoes, pepper and eggplants. The potato fruit looks like a small tomato. The fruit is a seed ball that is borne at the top of the plant. The edible portion of the potato plant is the underground tuber that serves as food storage. Potato setting, or tuberization, occurs six to eight weeks

After planting, or when the plant is in the early bud stage.

In Delaware approximately 5,000 acres of potatoes are grown annually and shipped throughout the eastern United States and Canada. Because this is such a good potato region, it may be more practical to buy potatoes from local growers rather than devote garden space to them: usually you can buy top-quality potatoes cheaper than you can grow, harvest, clean, and store them, and potatoes require special insect control that can be costly, bothersome, and not totally effective.

Many good varieties do well in Delaware gardens:

Round Whites – Superior, Kennebec, Katahdin, Reba, and Yukon Gold (Yellow Flesh).

Red Potatoes – Norland and Red LaSoda

Russets – Russet Burbank and Belrus

Planting

Plant potatoes any time the weather permits after March 15 until April 15. Seed potatoes

are available from many farm and garden stores in the state. If potato tubers (which are used as seed) are cut, seed pieces should be blocky and average about 2 ounces. Seed pieces should be cut the day before planting to allow healing. Each seed piece should have one bud or eye. Plant them in 36-inch rows with the seed pieces dropped every 9 to 12 inches. Maintain soil pH at 5.5 to 6 to control scab, although many varieties are now scab resistant. Potatoes respond to high fertilization and frequent watering. Apply 3 to 4 pounds of 10-10-10 per 100 square feet. Side dress when the plants are 6 inches high with ½ pound of ammonium nitrate per 100 feet of row. Hoe or cultivate weeds when they are young, before rows close in.

Major Insect and Disease Problems

Colorado Potato Beetle

Adults are light brown with black stripes running down the back. Larvae are reddish or brown, soft-bodied, with two rows of black spots on each side of the body. Both adults and larvae can cause severe feeding damage on leaves and stems. This insect pest frustrates home gardeners because many standard insecticides are no longer effective.

When a single pesticide is used continually, insects become resistant. This is the case

with the Colorado potato beetle. Hand-picked adults and larvae, and crush egg masses whenever practical. Azadirachtin or neem, spinosad, rotenone plus pyrethrins, esfenvalerate, and endosulfan all provide some control at times. If you are considering using pesticides for control, use more than product of a different chemical family in rotation to avoid reduced resistances issues.

Potato Tuberworm

These caterpillars are up to an inch long, white with a pinkish or greenish tinge and brown at both ends. They form blotch mines in leaves, bore through petioles and stems causing shoots to wilt and die, and tunnel into tubers in the field or in storage. During the growing season, keep plants well cultivated and deeply hilled to prevent exposure of the potatoes. Harvest potatoes as soon as crop is mature. Do not leave dug potatoes in the field overnight as moths lay eggs at night, and do not cover dug potatoes with potato tops.

The following procedure will minimize infestation after storage: Store tubers below

52 F; store only in new or clean bags in an enclosed area so moths cannot enter; clean and spray storage with methoxychlor (marlate) a week in advance; however, do not spray directly on potatoes.

Common Scab

Scab appears as shallow or deep corky blemishes that disfigure the potato skin and necessitate excessive peeling. Scab is a soil-borne disease found throughout the world but favored in soils with a pH of 6.0 to 7.5. Where practical, follow a three-or four-year rotation, avoiding susceptible crops such as radishes, beets, turnips, parsnips, carrots, and rutabagas. During the critical period of tuber development, keep the crop well watered. Do not raise soil pH with fresh barnyard manure, wood ashes, or limestone. Use acid-forming fertilizers such as 10-10-10, ammonium sulfate or diammonium phosphate, to help lower the pH. Currently, no chemical control is available to home gardeners to prevent scab, so use resistant varieties.

Fusarium and Verticillium Wilts

These diseases are caused by soil-borne fungi and can remain in the soil for several years. General symptoms are yellowing of lower leaves that progress up the plant, rapid wilting, and premature death. Tubor rot (usually a wrinkled dry rot) is also associated with wilt infections. The fungi invade the vascular system of the plant and clog the conductive tissue, thereby interfering with the transport of water.

Because wilts are hard to control, plant only disease-free certified seed; rotate to an area that has not recently contained susceptible crops (tomatoes, eggplant, peppers, potatoes);

treat seed with proper fungicide; plant resistant varieties; maintain adequate soil moisture during the growing season.

Early and Late Blight

These fungal diseases affect stems and leaves; however, late blight can also cause rubber rot. Early blight appears as circular spots with concentric, bull's-eye rings, usually on the lower leaves. Late blight occurs mainly during cool, wet weather. Infection appears as large irregular spots, eventually turning brown or black. The under surface of infected leaves often has a white fungal mass. Control of blight involves spraying with an effective fungicide such as mancozeb or chlorothalonil at 7-to 10-day intervals, destroying potato culls and crop residues, and planting resistant varieties when available.

Pesticide products included in this publication are generally listed as "active ingredient." The active ingredient is the material in the formulation that has the pesticidal activity. you will need to read the pesticide label on to determine if they contain the appropriate active ingredient. Regardless of the insecticide you choose, be sure the type of plant you want to spray and pest you want to control is listed on the label.

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