



Sherrie Smith
Keiddy Urrea

Arkansas Plant Health Clinic Newsletter

Follow us on social media



Sweet Potato Soil Rot

Sweet Potato is a favorite vegetable, especially for holiday cooking. It is rich in fiber and iron, calcium, selenium, and they're a good source of most of our B vitamins and vitamin C. Soil Rot (Pox) of Sweet Potato, caused by the bacterium *Streptomyces ipomoea*, is common in all the major Sweet Potato production regions of the United States. Symptoms vary depending on cultivar and time of infection. Scabby lesions are the most common symptom with lesions being circular to somewhat irregular, less than 5 mm deep. The lesions are dark brown to black with cracks radiating from the center. If the infection is acquired early in the enlargement of the tuber, indentations form in the root, or the tuber acquires a dumbbell shape. The fibrous root system may be devastated by the rot, with feeder roots developing a dark black decay. These roots break off readily during excavation, leaving a necrotic stub at the end of the root. Vines may suffer stunting, lower yields, premature flowering, wilting, bronzing, and yellowing of the foliage. Unfortunately, Soil Rot is soil borne and persists for many years in the absence of a sweet potato crop. The use of resistant cultivars is the best way of controlling Soil Rot. However, good cultural practices may

help. Keeping the pH to 5.2 reduces Soil Rot. Rotation with other crops also reduces but does not eliminate the incidence of soil rot. Timely irrigation when soil is dry also reduces the incidence. Avoid the use of mother roots or slips from infected fields. Soil fumigation where still allowed can reduce the severity of Soil Rot.

Sweet Potato Soil Rot- *Streptomyces ipomoea*



Photo by Cindy Ham, University of Arkansas Cooperative Extension

Sweet Potato Soil Rot- *Streptomyces ipomoea*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.



Sherrie Smith
Keiddy Urrea

Sweet Potato Mottle Necrosis

Mottle Necrosis of Sweet Potato, caused by *Pythium* spp., is a problem in heavy wet soils. Depending on soil temperatures symptoms are very different. When temperatures are below 18-20°C, the flesh has the texture of soft cheese, and is the same color as healthy tissue or slightly grayer. When temperatures are above 18-20°C, the external symptoms are sunken brown spots, and the interior symptoms are dry crumbly dark gray to brown rotted tissue in a labyrinth pattern. The best control is to avoid heavy, wet soils and to harvest early.

Sweet Potato Mottle Necrosis- *Pythium* sp.



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Sweet Potato Soilstain

Although Scurf is superficial and does not impact the quality of the flesh, it hurts the sale of tubers. Scurf of Sweet Potato, also known as Soilstain, is a disease that produces undesirable cosmetic damage. Scurf is caused by the fungus *Monilochaetes infuscans*. This is a common disease in the United States. Symptoms are dark brown to black spots that develop on the potatoes during the growing season. Copper-skinned sweet potatoes usually have brown lesions and red-skinned cultivars have almost black lesions. The spots grow and may eventually cover most of the surface of the potato. The infection is a surface one that can be easily scraped off and does not affect the flesh of the potato. Losses however result from buyers avoiding the discolored tubers. Most infections result from using infected potatoes as propagating material. The pathogen also survives in the soil for 1-2 years. Severity is greater in fine textured soils and in soils that have been manured. Two simple measures will give good control of Scurf. Practice a 3-4-year crop rotation with other crops. Do not use symptomatic potatoes for propagation.



Sherrie Smith
Keiddy Urrea

Sweet Potato Soilstain- *Monilochaetes infuscans*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion

Smudge of onion is a fungal disease caused by *Colletotrichum circinans*. Smudge is more commonly found on white onions, but no varieties are immune. Symptoms are black circular lesions with concentric rings on the dried wrapper scales of the onions. The fruiting structures of the fungus have stiff bristles (setae) that may be seen with a hand lens. Smudge may induce premature sprouting of the onion in storage, as well as negatively impacting marketability due to the unsightly dark lesions. Control involves a multi-pronged approach. Crop rotations with at least 3 years between onion crops is recommended. Good field drainage, clean seeds and transplants, proper drying and storage reduce Smudge. Onions

should be stored at 32°F with less than 70% relative humidity. Boscalid+pyraclostrobin (Pristine), Chlorothalonil (Bravo Ultrex, Bravo Weatherstik), and Pyraclostrobin (Cabrio) are labeled for use on onion. Homeowners may use a garden fungicide containing chlorothalonil.

Onion Smudge-*Colletotrichum circinans*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Sherrie Smith
Keiddy Urrea

Buckeye

Homeowners become concerned when their ornamental Buckeye tree's leaves become covered with brown blotches. Buckeye Blotch, caused by *Guignardia aesculi*, creates an unsightly problem on most horse chestnut and buckeye species. However, injury to the plant is minimal because the damage occurs late in the season. Symptoms first appear on leaves as water-soaked areas which turn reddish-brown to brown with yellow borders. These spots coalesce, causing large blotches which curl the leaves. By late summer the whole plant appears scorched. Fallen leaves harbor the spores, so a thorough cleanup of twigs and leaves is important in control of Buckeye blotch. As with other leaf spot diseases, infection is intensified by humid conditions. Improving air circulation by keeping weeds and other plants away from valuable specimens helps to reduce disease. Fungicides containing mancozeb or chlorothalonil are effective applied at bud break during wet springs. Reapply at intervals specified on the label if wet conditions persist. For new plantings, select plants with resistance to *Guignardia* Blotch such as bottlebrush buckeye (*Aesculus parvifolia*).

mancha del castaño falso. Esta enfermedad ocasiona mínimo daño en la mayoría de castaños porque ocurre al final de la temporada. Los primeros síntomas aparecen como lesiones con aspecto acuoso, las cuales luego toman un color rojo oscuro o café con bordes amarillos. El tejido dentro de las lesiones muere ocasionando que estas se enrollan al final del verano estas toman un color marrón. Para el manejo de la enfermedad es importante la limpieza de hojas que caen al suelo porque estas están infectadas con de esporas del hongo y van a servir inóculo para el siguiente año. Es importante también remover malezas y otras plantas a los alrededores de los castaños para mantener una buena circulación de aire puesto que alta humedad favorece la enfermedad. Para el manejo de esta enfermedad se recomienda la aplicación de fungicidas que contengan mancozeb o chlorothalonil en el momento en que los nuevos brotes están emergiendo en la primavera. También se recomienda sembrar cultivares resistentes a esta enfermedad como por ejemplo el cultivar bottlebrush buckeye (*Aesculus parvifolia*).

Mancha foliar del castaño falso by Keiddy Urrea

En esta temporada, los propietarios de vivienda se preocupan cuando observan que las hojas de los árboles de castaño ornamental forman manchas de color marrón. Estas lesiones son causadas por el hongo *Guignardia aesculi*, el cual causa la enfermedad conocida como el



Buckeye Blotch-*Guignardia aesculi*



**Photo by Sherrie Smith, University of Arkansas
Cooperative Extension**

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."