



Arkansas Plant Health Clinic Newsletter

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Sweet Potato Scurf

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.

Sweet Potato Scurf-*Monilochaetes infuscans*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Sweet Potato Soil Rot (Pox)

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

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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.

Sweet Potato Soil Rot- *Streptomyces ipomoea*

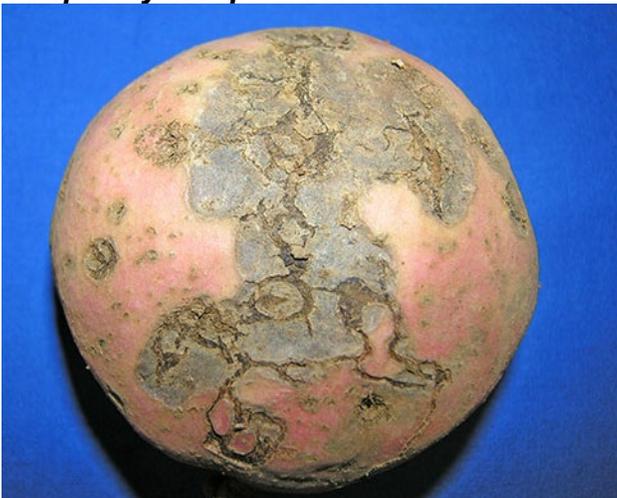


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Trees

We sometimes receive a request to identify a strange looking fungus growing at the base of a tree. *Xylaria polymorpha* (Deadman's fingers) is a wood rot fungus that appears throughout the year at the base of hardwoods trees. The fungus is commonly referred to as Dead Man's Fingers. It appears in tufts of three to six fingers that are often bent and black in color. The Dead Man's Fingers fungus specializes in consuming the polysaccharides - glucan and other minority content compounds of timber that bind the cellulose and lignin together to form what we recognize as wood. As a result, when these and various other ascomycetous fungi have consumed what they can of a dead stump the remainder is a nutrient-rich soft mess upon which insects and other small creatures are able to feed. There is no cure for a tree that has this fungus. Some trees live for years, and others die more quickly.

Deadman's Fingers-*Xylaria polymorpha*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Onion Smudge

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

Onion Smudge-*Colletotrichum circinans*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion Black Mold

Black Mold, caused by *Aspergillus niger*, is a common problem on onions during transit or storage. Symptoms are a black discoloration on the neck, shallow black lesions on the outer scales, and streaks of black underneath the outer scales. In extreme cases, the entire surface of the bulb turns black and shrivels. Infection usually starts in the neck, the fungus gaining entry through wounds as the tops break over or are cut at maturity. Infection may also occur through infected onion seed. Occasionally, there are no outward symptoms,



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but when a bulb is sliced in two, a black or gray discoloration is seen in the center areas of the bulb, usually extending from the neck to the center. Opportunistic bacteria will sometimes follow Black Mold infections causing a soft rot. Careful handling of bulbs to avoid bruising when harvesting, transporting, or storing, greatly reduces infection. Existing Black mold will not spread if onions are stored at 34°F to 59°F.

Onion Black Mold-*Aspergillus niger*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion Black Mold-*Aspergillus niger*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Squash

A common and widespread disease of squash and other cucurbits is powdery mildew, caused by *Podosphaera xanthii*, previously known as *Sphaerotheca fuliginea*. *Erysiphe cichoracearum* also causes powdery mildew on cucurbits but is less common. Symptoms usually begin on the undersides of crown leaves and on shaded lower leaves as white powdery spots or patches. Often, yellow spots form on the upper surfaces opposite the powdery mildew colonies. Eventually both surfaces of the leaves become covered with powdery mildew as well as stems and petioles. Badly infected leaves wither and die. Fruit production may be reduced in both quality and quantity. Dense plant growth along with low-intensity light and high relative humidity is favorable for initial infection. Dry conditions favor sporulation. The best defense is the use of resistant cultivars and the use of fungicides. Fungicide applications must begin at the first



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sign of disease. Fungicides containing trifloxystrobin (Flint 50WG), or tebuconazole (Folicur 3.6F), or chlorothalonil (Bravo Ultrex), or azoxystrobin (Quadris 2.08FI), or Boscalid+pyraclostrobin (Pristine), or wettable sulfur (Microthiol Disperss), are labeled for treatment of powdery mildew on squash. Homeowners may use a garden fungicide containing chlorothalonil.

Squash Powdery Mildew- *Podosphaera xanthii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Squash Powdery Mildew **Spores- *Podosphaera xanthii***



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.

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