



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.

Oak

Tubakia dryina, formerly known as *Actinopelte dryina*, is primarily a disease of late summer and fall. Young and newly transplanted trees are more vulnerable than established trees. The disease is worse on trees suffering stresses from drought or nutrient deficiencies. Symptoms are brown to reddish brown circular spots surrounded by a lighter halo. In severe infections, spots may coalesce to form blotches, and eventually drop prematurely. The first line of defense is to determine and correct the stresses that are making the tree more susceptible to this disease. Soil test for pH and nutrients. Water once a week, when we don't get an inch of rain that week. Fertilize to help tree put on healthy new growth. Clean up all fallen leaves and twigs to reduce inoculum. This is considered a cosmetic disease with chemical control not usually warranted. If the tree is severely affected and small enough to make spraying practical, an ornamental fungicide such as Daconil or Heritage may be used.



Tubakia leaf spot

Sherrie Smith University of Arkansas Cooperative Extension

Coneflower

Coneflower, *Echinacea purpurea*, is one of our most popular wildflowers. The cultivated forms are also great favorites in the perennial flower garden, having a long bloom period and the added benefit of attracting butterflies. While normally prone to only minor disease problems, they are susceptible to Aster yellows. This is a common disease caused by tiny organisms called phytoplasmas, specialized bacteria that are obligate parasites of plant phloem tissue, and some insects. Aster yellows affect 300 species of plants including aster, marigold, zinnia, petunia, cosmos, coxcomb, and coneflower. Susceptible vegetables include carrots, potatoes, onions, tomatoes, and celery. Weeds such as plantains and dandelions are also susceptible and may serve as reservoirs for the disease. The most common symptom of Aster yellows is the production of leaf-like structures in place of flowers. Other symptoms are yellowing, vein clearing, stunting, sterility, loss of flower pigments, and proliferation of side branches. The disease is transmitted by leafhoppers and is difficult to control. Infected plants can't be cured and should be removed from the garden to prevent spread of the disease.



Aster yellows on coneflower

Matt Lane University of Arkansas Cooperative Extension



drenches, but will not save plants that are already wilting from the disease.



Aster yellows on coneflower

<http://www.plantpath.iastate.edu/pdc/node/140>



Healthy mum vs. mum with pythium

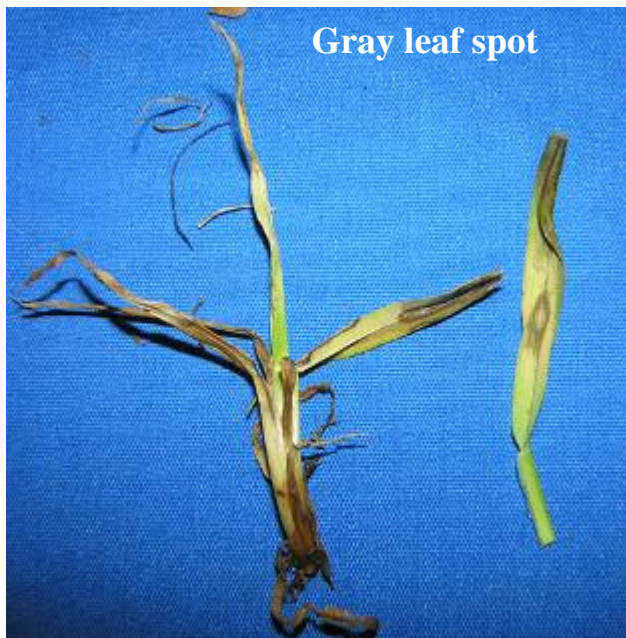
Sherrie Smith University of Arkansas Cooperative Extension

Chrysanthemum

Pythium root rot often occurs in saturated or poorly-draining potting material and suboptimal temperatures for plant growth. Excessive nitrogen fertilization may also be a factor in disease severity. Plants infected with Pythium or Phytophthora root rot usually are stunted and have a wilted appearance. The foliage may appear dull green or yellow as if suffering from nitrogen or other nutrient deficiencies. In almost all cases, the roots of diseased plants will show discoloration. The disease often starts as a discoloration of the small lateral roots and root tips. Small, pale brown lesions girdle the root, causing the outer root layer to slough off, leaving behind a thin tendril of inner root. As the disease advances, roots turn dull brown to black and are water-soaked. When washed diseased roots tend to disintegrate. Good sanitation is important in the control of pythium. Commercial potting mixes should not be stored on the ground. Diseased plants along with their soil should be destroyed. Pots intended for reuse should be thoroughly cleaned and disinfected. Overwatering usually plays a key role in both the spread and severity of Pythium and Phytophthora root rots. Keeping potted mums overly saturated is asking for trouble, as is keeping the plants in an area where water stands for any period of time. Fungicides such as Aliette or Banrot may be used as soil

St Augustine

The clinic is seeing St Augustine with Gray leaf spot caused by *Pyricularia grisea*. *Pyricularia* species cause disease on rice (blast), wheat, barley, pearl millet, ornamental, and turf grasses. The Plant Health Clinic sees it on St Augustine more often than other species of turf. Epidemics occur in summer and can continue until frost. Gray leaf spot is most severe on lawns that have been over fertilized with quick release nitrogen and on lawns with drought and soil compaction stress. Extended periods of leaf wetness caused by watering at night can also play a role in disease development and severity. Shaded areas of the lawn usually are more severely affected. Symptoms are oval to elongated gray to brown spots with brown or purple borders. The youngest leaves often take on a fish hook shape. Disease is most evident in the warm months of August and September. As individual leaves die, the turf takes on a thin appearance similar to drought damage. Fungicides such as Heritage, Compass, Banner MAXX, Bayleton, Green Light Systemic Fungicide, Green Light Fung-Away, and Bonide Fung-onil Lawn Disease Control are effective against Gray leaf spot.



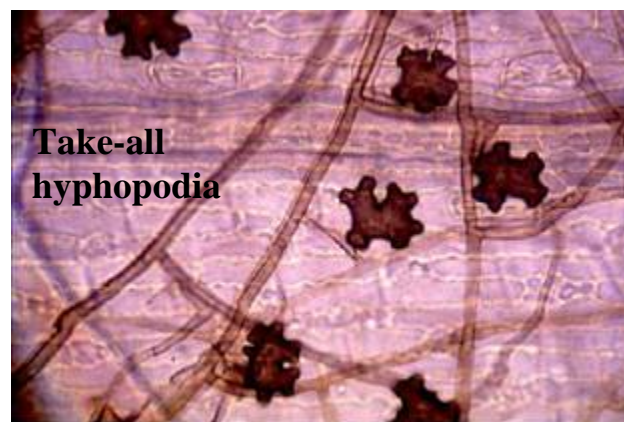
Gray leaf spot

Sherrie Smith University of Arkansas Cooperative Extension



Take-all-patch

Take-all-patch, caused by *Gaeumannomyces graminis*, is the main disease found on St Augustine grass in Arkansas. It also attacks Bermuda grass, Zoysia, Bent grass, Fescue, and Bluegrass. This disease is active in the fall and spring when the fungus attacks the plants root system during cooler soil temperatures. The first symptom is yellowing of the leaves. Roots are short, blackened, and rotted. The stolons can easily be lifted from the soil due to the decayed state of the roots. However, the leaves remain attached to the stolons, unlike Brown patch where a tug on the leaves will cause them to pull off the stolons. Often the patches will have green centers as opportunistic annual grasses and weeds colonize the areas where the St. Augustine has been killed. Under a compound scope, diagnostic lobed hyphopodia may be observed on the stolons. These fungal structures resemble dark-brown to black puzzle pieces. Heritage, Rubigan and Banner MAXX have shown some efficacy for Take-all-patch. Homeowners may try Fertilome Liquid Systemic, or Ortho Lawn Disease Control. Arkansas recommends two treatments 28 days apart in the fall, and two treatments 28 days apart again in the spring. Soil tests should be conducted and the pH adjusted to 5.5-6.0. Raising the mowing height of affected grasses during periods of high rainfall has been found to be helpful. Coring is beneficial in improving the root zone. Apply nitrogen on a 1:1 or 1:2 ratio with potassium using a slow-release form. Avoid nitrate sources of nitrogen.



Take-all
hyphopodia

Characteristic hyphopodia (infection pads) of Take-all Root Rot pathogen. Courtesy Joseph Krausz, TAEX, 1996.



<http://plantclinic.cornell.edu/FactSheets/takeall/takeall.htm>



http://www.gardenaction.co.uk/images/peach_leaf_curl.jpg

Peaches

Reminder!! Mark your calendars, if you have a problem with Peach leaf curl. Fungicides must be applied after leaf drop in the fall but before bud swell in the spring. Bravo, Kocide, Bordeaux, or lime sulfur may be used. Be sure to clean up fallen leaves and any fruit remains. This will help also in Brown rot control.