

# KENTUCKY PEST NEWS

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**Number 959**

**July 8, 2002**

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### CURRENT BLUE MOLD STATUS REPORT by William C. Nesmith

Many have called or emailed with reports from blue mold scouting events. Most have indicated that no evidence of blue mold was found, including counties neighboring those with confirmed activity. Only a few highly isolated and widely scattered cases of blue mold have been identified in Kentucky during the past ten days. They include:

! Casey County (Bass Community on the Casey-Taylor County line with moderately strong activity involving at least four cycles of disease),

! Breckinridge County (western region north of state highways 261/629 intersection involving two cycles with moderately strong activity reported by the county agent),

! Rockcastle County (Copper Creek Community near the Garrard/Lincoln/Rockcastle line with only new and very light activity present on leaves submitted to the Extension office),

! and Fayette County (single lesion found and removed in plots on the Spindletop farm). No other confirmed cases have been reported from Kentucky.

Wet weather events have been highly variable about the state during the past several weeks and most areas have not experienced weather conducive for strong blue mold development. Yes, it has been very humid, with dew and fogs, but the temperatures have

generally been too high at night. Bright sunlight and high night temperatures have contributed significantly to limiting spread, in my opinion. The cooler night temperatures experienced over the weekend (several hours in the 60's) should favor development where the pathogen is present, however. Watches and warnings have not been issued for large areas, because favorable weather conditions have not been widespread. Until more widespread or threatening activity is encountered, effective fungicide programs can be based on weekly scouting if the grower is capable of quickly responding with effective spray equipment. If activity is found, promptly report it, and immediately start fungicide programs in the field that include Acrobat MZ or Acrobat 50W, because they will check sporulation if applied well. See issue 948 of Kentucky Pest News (April 22, 2002) for the foliar fungicide options labeled in Kentucky for use in the field.

Black shank continues to increase, causing extensive damage on some farms. Growers are urged not to forget the cultivation and layby applications of mefenoxam-containing fungicides for black shank control. However, attention to placement and timing of these applications is very important. See issue 947 of Kentucky Pest News (April 15, 2002) for details.

Growers need to remain alert to the shifting blue mold situation east of Kentucky. Watches have been posted for east Tennessee, western North Carolina, and western Virginia. Trajectory analysis of these and our sources to serve as short range or long range inoculum can be accessed through our website, located at <http://www.uky.edu/Agriculture/kpn/kyblue/kyb>

## SOYBEANS

### SOUTHERN BLIGHT OF SOYBEANS

by Don Hershman

Southern blight, caused by a soil-borne fungus, *Sclerotium rolfsii*, is showing up in random soybean fields across west Kentucky. I have never seen southern blight cause serious damage to a field. However, the disease does have the capacity to severely damage a field if conditions are highly conducive for infection and disease development, and if inoculum of the causal fungus is widespread in a field.

Soybean is susceptible to the southern blight fungus anytime from emergence through pod fill. The disease most commonly occurs in isolated plants in fields that are well into the reproductive stages of development. When this is the case, the disease is usually more of a curiosity than a concern. In some years, certain fields may develop southern blight in the early to mid vegetative stages. This is what we are presently seeing. In these cases, the disease may spread rapidly, down rows, and may cause serious losses if disease incidence is extensive.

#### Symptoms

Plants affected by southern blight suddenly wilt and die. Leaves of affected plants turn brown, dry up, and usually remain attached to the plant. Examination of diseased plants will reveal a light brown, girdling lesion at, above, or just below the soil line. The most characteristic sign of the disease is the white mat of fungal growth on and about the lesion area. This mat of growth may also occur on plant debris and the soil surface in the vicinity of an affected plant. Hot, humid weather favors the development of the fungal mat and it may not form, or may disappear altogether during dry weather. Affected plants often develop numerous tan to brown fungal resting structures (microsclerotia), about the size of a mustard seed, in the vicinity of the white fungal mat. These sclerotia are the survival structures of the fungus and will be the source of future infections during the next season.

#### Disease Development

The conditions that favor southern blight include high moisture levels, both in the soil and under the plant canopy, and relatively high temperatures. Dry

soil conditions frequently precede severe disease outbreaks; these conditions predispose plants to infection by stressing plants. Southern blight tends to be most prevalent in sandy or sandy loam soils, or soils with high levels of undecomposed organic matter. The causal fungus survives as microsclerotia in both soil and infested plant debris.

#### Control

When high populations of the southern blight fungus exist in a field, the only practical control is to rotate the field to a non-host or least-favored host, such as corn, milo, or pasture grasses, for a period of three-to-four years. Burying infected soybean debris, by deep plowing the first year out of soybeans, followed by less tillage in subsequent off-soybean years, will help reduce levels of the fungus in soil. However, this cultural practice may be impossible to implement on some farms due to concerns over soil erosion. Where southern blight is a concern, but has not caused serious losses, rotating to a non-host such as corn for a two-year period should be adequate for disease control in subsequent soybean crops. Discing infected soybean stubble, even if deep tillage is not possible, may be helpful by accelerating the decomposition of infested stubble. Of course, this practice will have no value, and may actually be detrimental, if crop rotation is not also practiced. Specifically, discing infested stubble without practicing crop rotation will simply spread the causal fungus and may increase disease in the subsequent soybean crop. Disease incidence may also be reduced somewhat by application of calcium and nitrogen fertilizers. Finally, if southern blight begins to show in a field, avoid cultivating soil around diseased plants; this will help to reduce the level of in-field spread of the disease during the growing season.

## LAWN & TURF

### GRAY LEAF SPOT OF PERENNIAL RYEGRASS DETECTED

by Paul Vincelli

Foliar lesions of gray leaf spot, caused by *Pyricularia grisea*, were detected last week on a perennial ryegrass sample from Fayette County. The sample was collected from a lawn that was recently seeded, and which was receiving daily irrigation, both of which are factors that would greatly favor disease development. Only leaf lesions were found in the sample; blighting had not yet developed.

While predicting disease development is very complex and subject to wide margins of error, this early detection may foretell a potentially high level of disease pressure this year. The only other time we have found the pathogen this early on perennial ryegrass was in the last week of June, 1998, a growing season that later turned out to be an epidemic year. The same could be true of the current season, if hot, humid weather with periodic rainfall prevails through the rest of the summer.

Keep in mind that a recently seeded lawn receiving daily irrigation is unusually conducive to gray leaf spot, so I do not yet expect significant disease activity in established swards of perennial ryegrass receiving periodic irrigation. Logarithmic (or epidemic) development in Kentucky has always been documented to occur no earlier than the first week in August, even in the high disease-pressure years of 1995 and 1998. However, I do believe this early detection can serve as a "heads up" to golf course superintendents and other turf managers to be aware of the possibility of gray leaf spot development. Monitor the situation in your own swards as well as in your region.

In order to decide when to begin a spray program, a scouting-based approach is sensible. However, recognize that the disease cannot be identified positively from symptoms alone; there are several leaf diseases that mimic gray leaf spot. I do recommend scouting, but suspect samples should be examined under a microscope. Concentrate scouting on areas with compacted soil or heavily trafficked turf, and especially where heat stress is likely, such as south-facing slopes.

Turf managers who wish to use a fully preventive spray program in Kentucky can begin sometime around July 20, with an application of Daconil Ultrex at 3.2 fl oz per 1000 sq ft tank-mixed with either Banner MAXX at 1.0 fl oz or Bayleton 50 at 1.0 oz. (Readers further north often find they can wait to begin a spray program for gray leaf spot until sometime in August, or in some locations, even as late as September.) These tank-mixes provide good to excellent disease control under high disease pressure. For the periods of heavier disease pressure (which in Kentucky is from early August through Labor Day), Heritage 50WG at 0.4 oz or Cleary's 3336 50WP at 6-8 oz are proven to hold up well. Other tank-mixes that have performed well under high disease pressure in tests thus far include Heritage 50WG at 0.2 oz plus Daconil Ultrex at 3.2 oz and Compass 50WG at 0.25 oz plus Banner MAXX at 1.0 fl oz.

If using Daconil Ultrex or other chlorothalonil

products in a gray leaf spot control program, be conscious of the current label restrictions, including seasonal totals. At the rate of 3.2 oz of Daconil Ultrex per 1000 sq ft, the restrictions on seasonal totals for fairways essentially allow only three sprays at that rate. Thus, use the material judiciously and only when needed. More will be written about the seasonal totals pertaining to chlorothalonil at a later date.

## SHADE TREES & ORNAMENTALS

### AVOID BLACK KNOT OF FLOWERING PLUMS

by John Hartman

The most destructive disease of landscape *Prunus* species such as flowering plums and flowering cherries in Kentucky is black knot, caused by the fungus *Apiosporina morbosa*. Some Kentucky nurserymen and landscape managers are learning this year how destructive this disease can be. Unlike leaf spots and blights which mar the beauty of the trees during any given season, black knot, by girdling the affected limbs, destroys the trees themselves, affecting the landscape plant or nursery investment for many years. Perhaps most aggravating, this disease is sometimes introduced into the nursery or landscape in the fall of the year when growers don't recognize early black knot symptoms on trees already infected. Black knot occurs in throughout North America on more than 24 species of *Prunus*. Symptoms appear as elongated swellings or knots which may extend a foot or more along the limbs of infected trees. These black corky outgrowths predominate on small twigs and branches but may also be located on larger scaffold branches and on the trunk.

How trees become infected. In spring, black knot fungus ascospores are ejected from fruiting structures called perithecia embedded in the black knots on limbs of infected plums or wild cherries growing in landscapes or fencerows nearby. Spore release occurs during rainy periods and the spores are then moved by wind currents. A period of as little as six hours of free moisture at 70 F is required to cause infection. Longer wetting periods are required at lower temperatures. Infections occur almost entirely on the young green twigs, but they often remain undetected most of the first season. However, swellings are visible by fall and typical swollen knots are very obvious the following season, when they enlarge, split the bark, and turn hard and black. These galls begin producing new inoculum two years

after infection.

**Black knot management.** Little is known about relative disease resistance of flowering *Prunus* species and cultivars. Plum cultivars vary in their susceptibility to black knot with Stanley, Bluefree, Damson, and Shropshire being most susceptible; and Fellenburg, Methley, Milton, Bradshaw, and Early Italian only a little less susceptible. Backyard fruit growers should use cultivars such as President (resistant), or Formosa, Shiro, or Santa Rosa (slightly susceptible) for best results where black knot is in nearby landscapes.

Sanitation is the primary defense against black knot of existing trees. Flowering plum trees should be pruned for black knot during the dormant season because the disease is easier to see then. All infected branches and limbs should be cut 3-4 inches below any visible swelling, since the fungus spreads out beyond the knot itself. All black knot infections must be removed from nursery and landscape trees and from adjacent wild cherry trees. The knots must be collected and burned or buried because knots left in the trees or piled in the nursery or landscape can still liberate thousands of ascospores.

Fungicide sprays are effective in reducing the number of new black knot infections if the inoculum load is light. In nurseries or landscapes with an established or anticipated black knot problem, fungicide programs ideally should start in early spring after bud break once rainy periods with temperatures above 55 F are expected. Applications need to continue while shoots are elongating according to weather and plant development until 2-3 weeks after bloom. The early sprays concentrated just at flower bud appearance are the most important. Clorothalonil (Daconil 2787) is probably the most effective fungicide for use against black knot, however, captan, and thiophanate-methyl (Cleary's 3336) also provide some protection. There are formulations of these three fungicides that are also labeled on plums. Fungicide applications are not effective if black knots have not been pruned out and destroyed.

## DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

Recent samples in the Diagnostic Lab have included bacterial stripe on corn; *Rhizoctonia* root rot, brown spot (*Septoria*) and southern blight on soybean; black root rot, black shank, soreshin, *Fusarium* wilt, blue mold, tomato spotted wilt virus, *Pythium* root rot, target spot, ragged leaf spot (*Ascochyta*) and

nutritional problems on tobacco.

On fruit and vegetable samples, we have diagnosed black rot, anthracnose and phylloxera on grape; fire blight and cedar-apple rust on apple; brown rot, bacterial spot and scab on peach; bacterial canker, *Septoria* leaf spot, bacterial spot, *Fusarium* and *Pythium* root rots and tomato spotted wilt virus on tomato; *Fusarium* root rot on watermelon; and bacterial wilt on cantaloupe.

On ornamentals, we have seen *Botrytis* blight on peony; *Rhizoctonia* root rot on petunia; *Pythium* root rot on petunia, rudbeckia, and scabiosa; anthracnose on bentgrass; brown patch and gray leaf spot on perennial ryegrass; anthracnose on fringetree and itea; *Botryosphaeria* canker on maple and sweetgum; bacterial leaf spot on nandina; ozone damage on white pine; and black knot on plum.

## INSECT TRAP COUNTS

UKREC, Princeton, KY - June 28-July 5

Black Cutworm .....	0
True armyworm .....	5
Corn earworm .....	3
European corn borer .....	1
Southwestern corn borer .....	14
Fall Armyworm .....	0

NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.