

KENTUCKY PEST NEWS

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HOME GARDENS

SANITATION CONTROLS DISEASES IN THE HOME VEGETABLE GARDEN

by **John Hartman**

At the end of the growing season, often after the first hard frost, it is time to clean up the garden. Garden clean-up done well is an exercise in sanitation, and is an excellent and effective plant disease control practice. If not cleaned up, the infected or contaminated remains of the previous crop may provide an abundant source of disease-causing microbes the next year.

Many disease-causing fungi and bacteria can live over the winter on diseased roots, stems, leaves, or fruits. These microbes survive in several different ways:

- Some fungi, such as those causing tomato early blight and powdery mildew survive until next season on dead host plant tissues, even vegetation broken off and left behind as debris.
- Others, such as downy mildew, an obligate parasite, may develop on live suckers growing from stems and roots which, even with the tops cut off, can survive mild winters and allow the pathogens to grow. In addition to obligate parasites, other pathogens could also survive or even increase on such overwintering hosts. Even weeds such as winter annuals can harbor diseases.
- The Botrytis gray mold fungus and the Rhizoctonia and Pythium root rot fungi can live as saprophytes on garden plant debris.
- Pathogens such as root knot nematode and the fungi causing Fusarium and Verticillium wilt produce resting structures such as chlamydospores and sclerotia that can survive well in the soil even after the plant tissue has completely decayed.

In autumn, remove all the plants (except cover crops or winter vegetables) from the vegetable garden. Be sure to carefully dig up the roots and take them away as well. Roots left to decompose in the soil can release microbes that will survive there. If plants are not being removed, then till the garden in the fall to break the dead plant material into smaller pieces and to turn them under. Buried plant debris decomposes faster than plant debris left on the surface. This will reduce the population of disease-causing microbes left in the garden to attack next year's crop.

What is to be done with all this plant debris? If the gardener has a good compost pile that heats up and completely decomposes plant remains over a period of a few years, most of the disease-causing pathogens will also be destroyed. This, then, completes the process of garden plant disease control by sanitation. If heat development in the composting process is not possible where there is a concern about survival of root knot, black root rot, southern blight, or Fusarium and Verticillium wilt pathogens, infected plant parts should be removed from the garden and placed where they would not be recycled back into the garden.

LAWN & TURF

MICRODOCHMIUM PATCH/PINK SNOW MOLD COULD BE “WAITING IN THE WINGS”

by **Paul Vincelli**

Weather in central Kentucky since the first week of September has generally been clear, dry, and very pleasant. Combined with periodic rains to replenish soil moisture, conditions have been good for growth of cool-season turfgrasses. So often, however, weather patterns

change sometime around Halloween, and the region experiences sustained periods of overcast, humid weather for days on end. This kind of weather often sets up conditions favorable for *Microdochium* patch/pink snow mold.

The fungus that causes these diseases is called *Microdochium nivale*. (The fungus is formerly known as *Fusarium nivale*, which is why the disease is usually referred to as "Fusarium patch" in older literature.) *M. nivale* causes very different syndromes under different weather conditions.

Under snow cover. When snow cover persists for at least a week, this common fungus can produce circular patches 2-8 inches in size of bleached, dead foliage. Commonly white filamentous fungal growth ("mycelium") is evident when the snow melts. This growth may even have a pinkish cast from massive spore production. This is the "pink snow mold" phase of the disease.

During rainy weather. When *M. nivale* attacks under cool, wet, rainy weather without snow cover, affected grasses develop tan to orangish-tan, dead foliage. What is significant that, instead of forming more or less circular patches, damaged areas are "smeared" across the turf in no apparent pattern, except that one can often see damage running in the direction of the mower or surface drainage. This is because the spores of *M. nivale* are very sticky and are easily spread by mowers and other equipment when turf foliage is damp. This is the "Microdochium patch" phase of the disease.

Typically, this disease is only of concern on certain golf course turfgrasses under high maintenance. New seedlings of creeping bentgrass and perennial ryegrass are most at-risk of damage, since seedlings are much more susceptible than established plants. Overseeded areas of perennial ryegrass can also be severely damaged, as well, under long periods of snow cover (2 weeks or more), which are not common in Kentucky. In these cases, the fungus first attacks the very susceptible seedlings and moves from there to the adjacent established tillers.

Management

As far as cultural practices, do not leave turf uncut in late autumn or winter; remove mulches of fallen leaves; control drifting snow and provide conditions favorable for good drainage. Should an outbreak occur, recovery can be hastened by verticutting.

Based on published research in *Fungicide and Nematicide Tests* and other sources, the most effective fungicides are those that contain the active ingredients **fludioxonil** (Medallion), **PCNB** (Cleary's PCNB, Penstar, Terraclor,

Turficide, Revere, and possibly others), the tank-mix of **iprodione and chlorothalonil** (for example, Chipco 26GT and Daconil Ultrex), **propiconazole** (Banner MAXX, Spectator), **thiophanate-methyl** (Cleary's 3336, Fungo, Systec 1998, Cavalier, T-Storm), and **trifloxystrobin** (Compass).

On new creeping bentgrass seedlings in Kentucky, this disease is a significant risk, so I recommend beginning spraying in early November (unless dry weather persists) and continue until temperatures exceed 60°F during rain events (or 65°F, if the disease has recently been active). On established bentgrass that consistently experiences the disease, apply a fungicide preventively in early to mid-November and then repeat in mid- to late January.

On overseeded perennial ryegrass in Kentucky, a single preventive application during the first half of December is optimal, based on my experience. Based on published reports, more consistent control can be expected by tank-mixing iprodione and chlorothalonil than by either fungicide alone. Avoid using PCNB on putting greens, because of the potential for occasional phytotoxicity to creeping bentgrass and *Poa annua* if temperatures unexpectedly become warm. Of the two grasses, creeping bentgrass is the more sensitive to PCNB phytotoxicity. Phytotoxicity from PCNB is most likely when temperatures exceed 70°F. Injury from PCNB has been observed on creeping bentgrass in April following applications the previous November.

See the UK Extension publication "Chemical Control of Turfgrass Diseases", <http://www.ca.uky.edu/agc/pubs/ppa/ppa1/ppa1.pdf>, for more information on fungicidal control.

HOUSEHOLD

LADYBUGS AND BUILDINGS

by Mike Potter

As expected, the phones began ringing last week with complaints of lady beetles congregating on the sides of homes and infesting buildings. This phenomenon has become an all-too-common fall event throughout Kentucky and much of the United States. The culprit is the Asian lady beetle, *Harmonia axyridis*, in search of protected places to overwinter. In Kentucky, movement into buildings typically begins in mid-October, continuing through mid-November.

Detailed information on this challenging problem is contained in ENT-64, *Asian Lady Beetle Infestation of Structures*. Key points include:

1. Lady beetle flights are heaviest on warm sunny days when temperatures climb above 60 degrees F. They tend to congregate initially on the sunnier, southwest sides of buildings in mid-afternoon. Structures that are shaded and not brightly illuminated by afternoon sun are less likely to attract the beetles.

2. Once the beetles have alighted, they attempt to enter cracks and other dark openings in search of hibernation sites. These locations may be anywhere on the structure, but especially beneath exterior siding, around window and door frames, soffits, fascia boards, and through weep holes and attic or crawl space vents. Sealing exterior cracks and openings with caulk, screening, weatherstripping, etc., is the most effective long-term, prevention against beetle entry. (See ENFACT-641 *How to Pest-Proof Your Home*.)

3. Once the beetles are indoors, the best way to remove them is with a vacuum cleaner. When brushed or handled the beetles often secrete a yellowish-orange fluid, making a vacuum a better option for indoor removal than brooms, mops, etc. Insecticides applied indoors tend to be ineffective and may stain or leave unwanted residues on walls, counter tops, and other surfaces.

4. While sealing exterior openings is the more permanent way to deny ladybug entry, pest-proofing is time-consuming and impractical for many clients. If a household or business continues to be troubled by lady beetles, owners may want to enlist the services of a professional pest control firm. Some companies offer pest proofing services and many offer insecticide treatment of the building exterior, which helps to prevent pest entry. Fast-acting, "professional strength" pyrethroid formulations (e.g., Demand, Suspend, Talstar, Optem, Demon, Tempo) tend to be most effective, and can be applied around eaves, attic vents, windows, doors, underneath siding, and other likely points of entry.

Homeowners insistent upon applying exterior treatments themselves will usually get the most for their efforts using over-the-counter versions of these products such as Spectracide Triazicide, Bayer Advanced Powerforce Multi-Insect Killer, Spectracide Bug Stop™, or Ortho Home Defense System™. Purchasing the concentrated formulations of these products which can be diluted will enable the homeowner to mix up and apply larger volumes of material with a pump-up or hose-end sprayer. In order to have any benefit, exterior treatments must be applied *before* the beetles enter buildings to overwinter.

5. When all else fails, customers should be reminded that lady beetles play an important role in nature, and that their entry into buildings is a relatively short-term event which generally runs its course by early November. Lady beetles do not injure humans although they can

occasionally give a bit of a "nip" if they land on one's skin. They do not breed or reproduce indoors like fleas or cockroaches, and constitute a nuisance only by their presence.

DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

Recent diagnoses have included blue mold, frogeye leaf spot, angular leaf spot, and piebald (improper curing) on tobacco; sooty blotch and flyspeck on apple; bitter rot on pear; scurf on sweet potato; Rhizoctonia root rot on impatiens; Pythium root rot on poinsettia; black root rot on pansy; rust on daylily; Christulariella leaf spot on maple; bacterial scorch, Actinopelte leaf spot and insect galls on oak; Phytophthora root rot on pine; and Botryosphaeria canker on willow.

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.

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