

Technical manager discusses diseases, weeds and insect pests

Editor's note: For an overview of diseases, weeds and insect pests that have impacted turf this summer, as well as how to deal with these challenges and also prepare for the fall and winter months, we interviewed Michael Agnew, Ph.D., senior field technical manager at Syngenta.

ST: What turf diseases, insect pests and weeds are turf managers dealing with this year?

Agnew: I use history as a good barometer of the future. Last year's weather conditions, where we had one of the worst summers in a long time as far as heat and rain, was pretty much mimicked by early high temperatures and rains this summer [though] there has been greater devastation due to heavy rains, flooding and tornadoes. A significant amount of rain in the spring can be a precursor to several disease, weed and insect issues.

Turf managers often weren't able to get out onto the properties to make needed applications, because it was too wet. In those cases, some of the products they ultimately applied may not have stayed in the soil and moved below the zone of germination. As such, I expect to see several failures on pre-emergent herbicides, simply because the weather conditions set it up for that.

With insects, it depends on how wet it was. If it was really wet, turf managers may see some mortality of grubs. All living organisms require oxygen to survive, and saturated soils leave no room for oxygen. Across the transition zone, from Kansas City to Maryland, it is pretty consistent that you get some grub activity on a yearly basis. The type of grub will vary upon your location.

Surface feeders are not perceived as being as severe of a problem, but the bluegrass billbug is one that can be pretty devastating. I've seen entire sod fields wiped out within days following an infestation.

When it comes to disease, brown patch is likely to be the number one pathogen—especially with tall fescue or ryegrass. Those species are very susceptible to infection by brown patch.

High soil moisture, high humidity and high temperatures are needed for disease activity. If you have continued wetness for 10 hours on the leaf surface, and you have temperatures above 85 degrees, that's a perfect storm for a diseases like brown patch and Pythium blight. These two diseases can hap-

pen at the same time, and usually, it takes two different fungicides to control them. So you have to have the right fungicide down.

In the south, one thing I would be concerned about is a leaf spot problem on bermudagrass because there is some root rot that can happen when cool wet weather goes to a warm, dry period.

Another disease that some may be experiencing is summer patch on species like Kentucky bluegrass, annual bluegrass, and fescues, especially in areas that are prone to drought quickly, such as hillsides. The best way to treat for these diseases is preventive. Areas that are injured by summer patch are sites to consider for introduction of tolerant species.

Saturated soils can lead to root systems that are compromised. The lack of oxygen can lead to a weakened root system that is more prone to disease, especially when you experience the higher temperatures.

On a typical year, if you can control Pythium blight and brown patch, you can get through the summer in pretty good shape.

ST: Is curative treatment preferred over preventive?

Agnew: Early curative is fine. The key is to look for symptoms, and if you are using a scouting system that is combined with monitoring of the weather conditions, treatments applications are still preventive.

There are predictive models that use weather conditions that give you ample warning to schedule an application. This type of application can be just as effective as making applications every 30 days. Late curative applications can be considered post-mortem application, the damage has been done. Applications at this point are to prevent any further spread.

If turf damage has been done, now is the time to start thinking about seeding in the fall.

ST: What recommendations do you have to limit the spread of disease?

Agnew: Mowing is one of the main ways of spreading diseases such as leaf spot, Pythium, brown patch and dollar spot. The mowing process is essentially an inoculation

process because you are transferring infected leaf blades to otherwise healthy leaf blades.

One way to prevent spread from one site to another is to clean the mowers between job sites. If you believe there is an issue, hose off the blades and make sure they are clean before you go to other sites.

Another way to reduce spread is to use a PGR [plant growth regulator] to slow down the growth. This reduces the need to mow as much. PGRs can be used in combination with fungicides as a good way to control diseases in the turf. The reduction in mowing equates to less plant stress caused by leaf removal.

Also, less mowing equals less removal of fungicides during the mowing process. Applying a PGR before rainy periods can prevent excessive clippings. Also, if mowing has been delayed because of rainy conditions, removing large amounts of leaf tissue causes a great deal of stress to the turf and can make it prone to disease.

Proper irrigation is also critical, but don't keep the turf saturated. Also, allow the soil to dry a little between irrigation sessions. This helps decrease disease activity.

Check with the local extension services, as many local offices provide regular alerts. Use diagnostics, good scouting, and make sure that you know your diseases. If you suspect that you have Pythium blight, do the feel test. Plant infected with Pythium blight will have a greasy feel to the leaf surface and a lot of cottony mass.

If the leaf tissue is just dying back from the tip, and does not have a slimy feel to it, that may be brown patch or gray leaf spot. It is important to understand that there are many diseases that can be active during the middle of summer. When it gets hot like it did last year with rains or over-irrigation, diseases can run rampant.

ST: At what point should turf managers begin preparing for fall and winter? Also, what should they be preparing for, and how?

Agnew: Fall and winter preparation depends on your location. In the north, winter diseases can be devastating. It is best to start preparing for fall and winter in the summer. Know the health of your grass. If the area has been damaged by insects, disease or weather, you should overseed in the fall, and do this early enough to ensure a mature plant before winter. Develop your plan early, so you can have a successful fall and a survival during the winter. All seeding should receive adequate moisture and fertility to establish.

Last fall many areas experienced drought conditions. Much of the seeded grass didn't develop, and people were put into a situation where they had to do some overseeding in the spring. A good guideline is to do all of the preparation early. The recovery from summer stress requires that any repair work be done as early as possible, and that the right amount of nutrients are applied to feed the plant during recuperative months of fall, which are more conducive for cool season grass growth.

Fall is the time where the plant is building up its stored carbohydrates in the crown, roots and rhizomes. Build it up in the fall to protect it through the winter, and then in the spring again to protect it through the summer.

When a plant goes dormant because of drought, it uses those stored carbohydrates to recover. If it doesn't have stored carbohydrates, it doesn't recover.

Also, be mindful that the nutrient regime ties right in to your disease-control regime. You need to have enough nitrogen present so turf can grow, but not so much that you are not pushing the disease. Therefore, use as much slow release nitrogen as you can. This will help prevent lush growth that is going to be more prone to disease activity. Some diseases are prone under low nitrogen; some are prone under high nitrogen. Summer diseases tend to be more active on high-nitrogen soils.

ST: What is the recommendation regarding contact products versus systemic products?

Agnew: With Pythium diseases and brown patch diseases, a sys-

temic fungicide is usually best. It can spread through the crown. It will protect from the inside out. A lot of times people will put a systemic with their contact in the application. The issue is that not all contacts can be used everywhere.

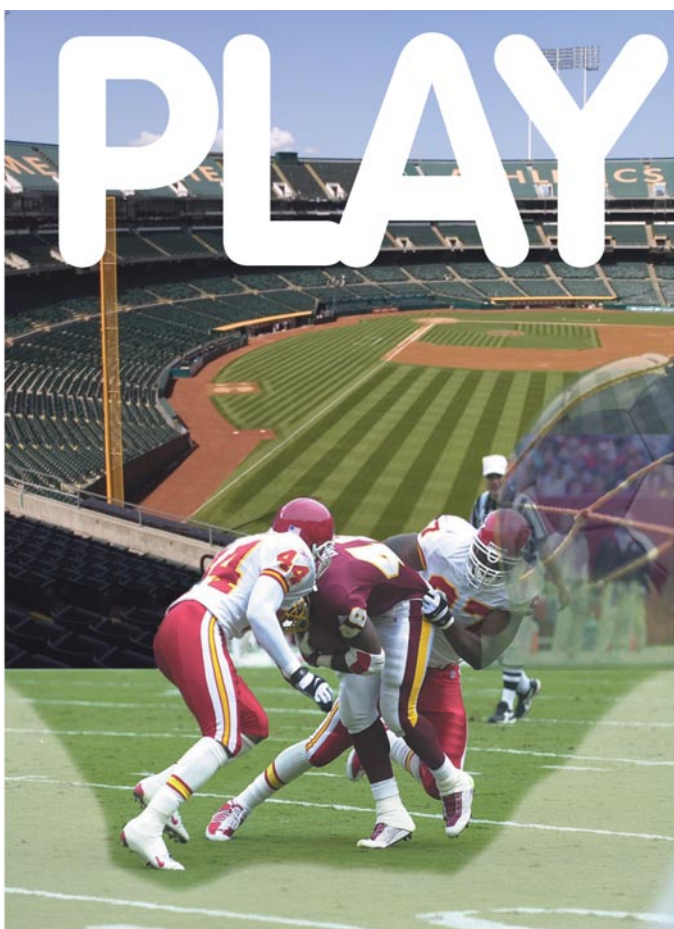
For sports fields that have a higher variety of diseases, putting a contact on the turf is probably a good way to go to knock down diseases. But with the regulations, check the label. Labels have changed tremendously over the past 10 years. Research the label and the EPA regulations on it.

ST: What are your thoughts regarding granular versus spray treatment, and spot versus blanket treatment?

Agnew: Granular products are great for fertilizers, pre-emergent herbicides and soil insecticides. They work pretty much the same as liquids, though not all granular pesticide products are effective in particular circumstances. Be sure to select a granular product that has an active ingredient that will control the target pest.

For fungicides, liquid applications are generally better than granular. There are granular fungicides that are effective, that can move into the plant, move into the roots, and actually move up into the plant. These types of fungicides can be used as a spot treatment. Why fill up a sprayer to treat 1,000 square feet when a granular application may be just as effective?

Always read and follow label directions before buying or using the types of products mentioned in this article. The directions contain important conditions of sale, including limitations of warranty and remedy. ■



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