

Incorporating New Fungicides Into Your Disease Management Program

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The following is a discussion of the new fungicides which have come into the turfgrass market over the past few years. This is not intended to suggest the elimination of the old standby fungicides that have given successful disease management for many years. This paper is simply to inform you about the new fungicides and the diseases they manage so that they can be incorporated into your current fungicide program along with the standard fungicides.

Iprodione is a systemic fungicide which will control dollar spot, brown patch, leaf spot and melting-out for a 3-4 week period. It has also given excellent control of Fusarium patch under Northern Michigan conditions.

Triadimefon is a systemic fungicide which will manage dollar spot, brown patch and anthracnose for a 3-4 week period. It will manage Fusarium blight if applied preventively, that is, before the disease becomes active in a given season. It will also manage stripe smut if applied just before the turf breaks dormancy in the spring.

Propiconazol (CGA 64250) and CGA 64251 are systemic fungicides which will manage dollar spot, brown patch, anthracnose, melting-out, leaf spot and Fusarium blight for a 3-4 week period.

Fenarimol (E1-222) is a systemic fungicide which will manage dollar spot for a 3-4 week period.

Vincozolin is a systemic fungicide which will manage dollar spot, leaf spot, melting-out and anthracnose for a 3-4 week period.

There are two new Pythium blight fungicides on the market: Subdue and Banol. They are systemic and will give about 2-3 week management of Pythium blight. They will also manage yellow tufts. Resistance to the fungicide by the Pythium has been reported to occur quickly, often during the first season use. These fungicides have the same mode of action and therefore, resistance to one will mean resistance to the other.

Resistance

There are two basic types for fungicides based on their mode of action. The non-site specific fungicide which have many different modes of action by which they inhibit or kill fungi. These are primarily the contact type fungicides. The others are the site-specific fungicide which usually only have one mode of action by which they inhibit or destroy fungi and these are for the most part for systemic fungicides. The newer fungicides discussed in this paper are site-specific systemic fungicides.

It is difficult at this time to predict when or if resistance to these new fungicides will occur. It is my belief that resistance will occur to these new fungicides and in fact has occurred to iprodione by Sclerotinia homeocarpa (the dollar spot organism). S. homeocarpa has been the primary pathogen where fungicidal resistance has occurred in turf. Resistance to the site-specific fungicides has occurred where site specific and non-site specific have been alternated or where they have been applied together in combination. The best means of preventing resistance from occurring may be to only use one site-specific fungicide for the entire season during the period of time that dollar spot occurs. Then use a second site specific fungicide, with a different mode of action, the second season, etc., the third and fourth season until all the different site specific fungicides have been used, then start over again. An example of this schedule would be first season Iprodione, second Triadimefon, third Fenarimol,

fourth Propiconazol.

The fungicides mentioned above listed in Table 1 are not labeled for all the diseases mentioned and should not be used on them until they are. All the fungicides mentioned above should be used in accordance with labeled directions.

Table 1. New Turfgrass Fungicides.

Generic Name		Diseases Managed
CGA-64250	Tilt	dollar spot, melting-out, leaf spot, anthracnose, Fusarium blight
Fenarimol (EL-222)	Rubigan Bloc	dollar spot
Iprodione	Chipco 26019 Pro turf fungicide	dollar spot, brown patch, leaf spot, melting-out, Fusarium patch
Propiconazol CGA-64251	Vangard	dollar spot, leaf spot, melting-out, anthracnose, Fusarium blight
Triadimefon	Bayleton Pro turf fungicide 7	dollar spot, brown patch, anthracnose, Fusarium blight
Vincozolin	Vorlan	dollar spot, melting-out, leaf spot