

# CUTT

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## Maximizing Fungicide Performance

**T**he use of fungicides is perhaps the most common method of turfgrass disease control. Despite the familiarity of fungicides to nearly all turfgrass managers, surprisingly few applicators are aware of the many factors that influence the performance of fungicides. It is generally believed that, if a fungicide is applied, it will control the disease. If it doesn't, then it is a problem with the fungicide or it is the wrong target disease. In this article, we will explore some of the factors that should be considered when applying fungicides in order to maximize their effectiveness. ■

### Application

First, let's begin with application equipment and application techniques. Studies performed nearly a decade ago revealed that fewer than 25% of spray applicators were actually applying what they thought they were. Nearly all were making mistakes in mixing, loading, equipment configuration, and calibration of delivery rates. National losses due to these mistakes have been estimated to be in the billions of dollars.

It is important, therefore, that equipment be routinely and properly calibrated and maintained. This includes cleaning or replacing nozzles and checking nozzle pressure. Flat fan and swirl chamber nozzles often perform the best at pressures of 30-60 psi. Other equipment parameters to check on a routine basis include nozzle spacing, boom height, spray output per time per unit area, and spray coverage to avoid skips and overlaps.

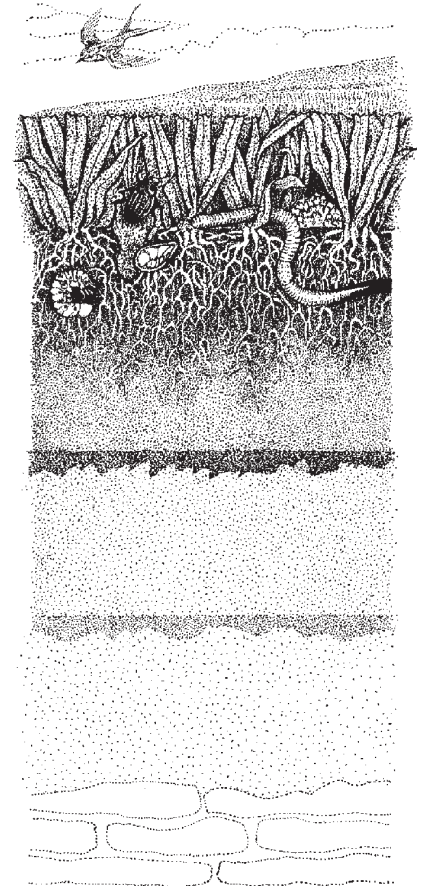
Tank storage time and pH can also affect the efficacy of fungicides. Studies have shown that

under alkaline (high pH) conditions, a number of commonly-used fungicides can break down and lose their effectiveness. For example, anilazine (Dyrene) is unstable at high pH values. Even at low pH levels, Dyrene stored in the tank for more than 20 hours will have reduced effectiveness. Fenarimol (Rubigan), on the other hand, is unstable at acid pH values when stored for 24 hours or more. Fungicides such as iprodione (Chipco 26019), vinclozolin (Vorlan), propiconazole (Banner), and triadimefon (Bayleton) are relatively insensitive to pH.

With the recent move toward IPM programs for turfgrass management, application timing is extremely critical. Things to consider with regard to application timing are the time of day, wind conditions, frequency relative to other pesticide applications or management inputs, and whether applications should be made preventively or curatively.

Fungicide placement is one of the more important factors affecting fungicide performance.

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