

## DISEASE CONTROL

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thiram, maneb, zineb, Dynene, Actidone and Daconil have broad activity spectra. Even though they were more effective against some pathogens then others, the materials still were toxic to a wide range of disease organisms. Neither fungicide choice nor disease diagnosis was critical. If the superintendent mis-diagnosed his fungicide choice it was still more or less effective and nothing drastic happened.

The advent of the new systemics changed all that. The benzimidazole (Tersan 1991) compounds are extremely effective against *Sclerotinia* dollarspot and worthless against *Pithium* blight. Attempting control of *Pithium* blight mis-diagnosed as dollarspot with lots of visible white mycelium would be pure disaster.

These or similar types of crises happened far too often this past summer. In one instance with which we were familiar, greens received four applications of different fungicides in one week, all at maximum label dosage. At the end of the week, the greens were yellow, partially scorched and diagnosis of the original problem would have taken the wisdom of 16 Solomons. The cure was indeed worse than the ailment.

Successful disease control is built on good planning and taking advantage of accumulated experience. Cultural mangement comes first, chemical fungicides second. For greens especially, a good, deep, vigorous root system is essential. Disease damage to a bentgrass green surviving on 1/4 inch of root depth clinging to bricklike compacted soil will be far worse than on a deep rooted healthy turf. Far too many people are substituting the chemical pill for spring and fall aerification, monthly topdressing, and light verticutting at regular intervals. Topdressing plays a big roll in decaying surface debris and thatch; thus, minimizing the survival base for disease organisms.

Various fungicide programs can be used to accomplish the same goal. Experience plays a big part in fungicide choice and successful use. New fungicides should be introduced gradually, first in the nursery, then on a green or fairway, and finally incorporated into the total program. This may take an entire season or several seasons to accomplish.

There are no miracle fungicides. Often what is gained towards one disease is lost in another. The replacement of mercury with benzimidazoles (systemics) in a fungicide program gains better dollarspot and brown patch control but loses all *Helminthosporium* and *Pythium* suppression, thus requiring additional different fungicides integrated at appropriate intervals.

Last, successful control requires accurate disease diagnosis and estimation of problem severity. Is the disease truly going to result in severe turf loss or is it merely a curiosity? Will it get better in a week whether you spray or not? With rising costs everywhere the turf manager must make hard decisions. Treatment costs must be viewed in terms of real benefits, not imagined or whimsical improvement.

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## Fine Fescues Right For Roadside Uses

Fine fescues are important components of grass mixtures to use for keeping roadsides green and beautiful with a minimum of maintenance, according to Dr. Robert W. Duell of Rutgers University.

"Research has shown that several of the fine fescues thrive in acid soils, such as are frequently found along roadsides where there is less opportunity to correct soil acidity with applications of lime." he said.

An associate research professor in the department of soils and crops at Cook College, New Brunswick, N.J., Dr. Duell reported the result of his research on turfgrass varieties and soil acidity to the American Society of Agronomy.

The field work involved the development of different levels of acidity in field plots through 4 years of surface applications of ammonium nitrate and lime.

Once the desired acid levels were reached, 19 varieties of grasses and legumes were sown in the plots. All plants tested, except the fine fescues, did best in the less acid soils that had had lime treatments. The fine fescues, however, did better in the more acid soils of the research area.

In addition to the paper, Dr. Duell is senior author of a monograph and slide series, sponsored by the Turfgrass Division of the ASA, which he previewed at the meeting. The slides portray the problems, materials, and methods involved in the development of a superior vegetative cover for roadsides and will be available through the ASA.