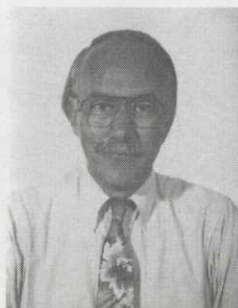


The dog days of August

Seeing grubs and *Pythium* in a new light

by Juergen Haber

As the dog days of August come upon us we have to worry about a totally different animal: the grub. But now there are more weapons in the arsenal with the completion of an historic first phase study led by Dr. Michael Villani, associate professor, soil insect ecology, New York State Agricultural Experiment Station, Cornell University.



This second large contribution by Dr. Villani to *Turf Grass Trends*, (Effective management of Japanese beetles, July 1992), is the first large-scale survey of grub populations in lawns. To understand the scope of the survey one must be told that the researchers took more than 3,000, four-inch round samples.

Field Editor Christopher Sann follows up Dr. Villani's story by telling us how grubs might be less of a problem by increased use of integrated pest management.

Finally, we follow up Sann's story with news brief that bring more bad news for traditional turf managers: pesticides may be curtailed even more.

And speaking of follow-ups, Science Advisor Dr. Eric B. Nelson finishes last month's discussion of *Pythium* in this issue. The question of whether *Pythium* is a fungus bears directly on the way turf managers should treat diseases resulting from *Pythium* infections.

Finally, we have a correction to make: on page 5, lower right, of the July issue, we ran the wrong photograph. It should have been the following:



Photo provided by Dr. Eric B. Nelson, Cornell University
Symptoms of *Pythium* snow rot on a golf course fairway.

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closely related genera of plant pathogens, require certain wavelengths of light for their spores to germinate optimally.

How does the naming change affect *Pythium* diseases of turfgrasses?

Conventional wisdom and recent experiences with other misidentified pathogens like *Magnaportheae* (Summer Patch) would say that all the *Pythium* species are not really all that different from other fungi or that the *Pythium* species are really just another as yet to be identified "new" branch of the fungal world, waiting to be discovered.

In fact, *Pythium* species are different from the other fungal pathogens. They are as different from these fungal pathogens as fungal pathogens are different from insects. This means that *Pythium* species should be placed into a separate pest category when considering overall control strategies. The control of *Pythium* diseases requires measures unique to this new category, with little or no overlapping strategies with the control of fungal diseases of turf. Interestingly, some of the fungicides that are used for algae control, in particular mancozeb, are also effective *Pythium* fungicides. Perhaps we can learn something about the control of *Pythium* diseases by learning something about the biology and management of algae, and vice versa.

How did *Pythium* evolve?

It is intriguing to note that a number of algal species are parasitic on plants, although none have yet been described on turfgrasses. The most interesting thing about these parasitic algae is that they infect plants by means of zoospores and prolonged culture of these organisms in the laboratory causes them to lose their chlorophyll pigments. Upon losing their pigment, they take on a fungal appearance which very closely resembles that of *Pythium*. Perhaps through evolution or environmentally, *Pythium* was an alga that became a fungus. Or was it a fungus that became an alga? Stay tuned. ■

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long-term plans will fall by the wayside in the coming 10 to 20 years.

Turfgrass product manufacturers must spend the time and effort to make promising alternative products, strategies, and information available. Turfgrass product suppliers who cling to old product lines and distribution channels, and fail to offer their clients an expanding list of these new "tools", both goods and services, will fade.

As the regulatory pressures grow on turfgrass managers, those manufacturers and suppliers that understand the future and provide answers to future turfgrass management questions will thrive. Those that fail to meet those needs will not survive. ■