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Book review

Compendium of Turfgrass Diseases – 3rd Edition, by Richard W. Smiley, Peter H. Dernoeden and Bruce B. Clark. 2005. 160 pp., 49 black and white illustrations. APS Press, St. Paul, Minnesota, USA. ISBN 0890543305. US$55.00.

The 'Compendium of Turfgrass Diseases' is the third edition of this multi-authored monograph. It begins with an introduction describing the grasses used for turfgrass including the difference between cool season and warm season turfgrass species. This is followed by a short description of the causal agents of diseases such as viruses, bacteria, protists, fungi and nematodes.

Part one details the non-infectious diseases caused by both biotic and abiotic agents. Biotic agents include algae, black layer, moss and insect pests. The abiotic agents include chemical agents such as fertilisers and chemical spills, physical agents such as temperature and ice and mechanical agents such as mower injury and abrasive injury. The descriptions of symptoms are detailed and illustrated with photographs. Each section comes with advice on how best to reduce the damage from the non-infectious diseases.

Part two is my favourite and, in my opinion, cannot be rivalled in any other text available at present. There are 88 pages of excellent information on the complete range of infectious diseases caused by fungi on turfgrass. For each disease the symptoms are described and accompanied by excellent photographs to aid identification. The fungal pathogen is described including keys to distinguish between species and photographs (both overviews and close ups) of symptoms and of spores and mycelium where relevant. Details on the disease cycle, epidemiology and control measures are given for each fungal pathogen.

Part three deals with diseases and disorders caused by other pathogens and biotic agents, such as bacterial diseases, fairy rings and diseases caused by plant parasitic nematodes. Again for each disease or disorder a complete description is given including the causal agent(s), disease cycle, epidemiology and control.

Part four deals with the ecology and taxonomy of the pathogenic fungi that cause these turfgrass diseases. The fungi are categorised into obligate parasites, facultative saprophytes, facultative parasites and obligate saprophytes with each category described in detail.

Part five details standard management practice for disease control starting with seedbed sanitation, use of disease resistant cultivars, management of the established turfgrass climate and culture, chemical and biological control.

Part six deals with general diagnostic procedures to help the practitioner and includes a key to help determine the disease.

This book would suit any level of knowledge from the most experienced pathologist to the teenager just beginning his training in turfgrass management. At the end of each section selected references are given allowing the reader to obtain more in-depth research information on each disease-causing agent where required. There is also an excellent Glossary at the back to help those non-pathologist readers understand the terminology. This truly is a well-written, well-illustrated and very up-to-date book. Although there are other texts that give a more historical and more in-depth review of the research carried out on each disease-causing agent, this text is very much the diagnosticians bible and, if you can only afford one turfgrass disease book, this is the one I would advise you to purchase.

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