

INTRODUCTION TO USE OF THE DISEASE MANAGEMENT GUIDE

The purpose of this updated, fifth edition of the ***Disease Management Guide for Connecticut Arborists 2007-2008*** is to help arborists identify and manage current disease problems on common woody ornamentals in Connecticut. Changes in this new edition are highlighted as follows. In recognition of increased interest in following low-input, biorational, or organic programs for managing diseases, this guide provides a *Plant Health Management* approach that emphasizes plant health as a means to minimize or manage the impact of diseases. Part of this approach involves recognizing and identifying key diseases of specific hosts. This guide includes key biotic problems as well as problems associated with abiotic factors since the impact of the weather extremes of the past few years on tree health have had increased importance in the Connecticut landscape. This publication is not all-inclusive but highlights the ***current*** problems on selected common woody ornamentals in the landscape.

Accurate diagnosis of tree health problems is fundamental to disease management. It is necessary for keeping records about the occurrence and severity of a particular problem on a specific host, a key component of any management program. Regardless of the abiotic or biotic nature of a problem, knowing what happened the previous year is helpful since it allows one to anticipate potential problems for the upcoming season. In the case of biotic problems, information about the amounts and sources of overwintering inoculum is helpful. However, even armed with this information, weather still plays a critical role in determining both the incidence and severity of disease each year. Temperature, rainfall, and relative humidity can influence the development of the disease agent, the host plant, or both. As a consequence, programs for disease management must be adjusted every year to take the prevailing environmental conditions into account. This is very important because, while certain diseases occur every year, there are other diseases that pose threats or occur when certain weather conditions prevail or if allowed to build up from year to year.

This guide consists of three main parts: a **Disease Management Guide**, a **Disease Management Calendar**, and a section of compiled **Fact Sheets**. The **Disease Management Guide** lists woody ornamentals by genus, common name, disease, pathogen/cause, diagnostic symptoms, management strategies, and materials (pesticides) registered for use. **Low-input or biorational pesticides are indicated by an asterisk (*) in the guide.** Many biofungicides can be combined with traditional (chemical) fungicides to produce synergistic effects. The list of fungicides in this guide is not all-inclusive but serves as a reference for selecting appropriate materials. It is the responsibility of the pesticide user to follow the label and select products that are registered for use on specific crops since labels vary with regard to hosts and diseases. It is also critical to use fungicides intelligently to prevent pathogens from developing resistance to particular fungicides. For example, continued use of myclobutanil can result in pathogens that develop resistance to this fungicide. Therefore, it is important to rotate myclobutanil with a fungicide with a different mode of action such as

thiophanate methyl. Failure to adequately control diseases can be attributed to pathogens that have developed resistance from repeated use of products with similar modes of action.

The page references listed after each disease and/or causal agent refer to *Diseases of Trees and Shrubs, 2nd Edition* by W. A. Sinclair and H. H. Lyons. A complete citation for the newest edition of this important reference can be found in the list of references at the end of this guide. In the typical landscape, disease management is especially difficult since arborists must deal with many plant species, each of which has different and often unique plant health problems that cannot all be handled the same way. Because of this diversity, it is important to accurately identify and to know the relative importance of the disease in order to act with appropriate and timely management strategies (including use of culture, sanitation, resistance, and pesticides). Where applicable, management strategies and timing of pesticide applications are based on the phenology of the host. The descriptions of diagnostic symptoms included in this guide are designed to help in disease identification. For example, some diseases such as leaf spots and powdery mildews are more aesthetic than life-threatening and are often not serious enough to warrant chemical control. On the other hand, diseases such as fungal root rots can seriously debilitate and eventually kill individuals or entire plantings if left unchecked.

The second part of this guide is the **Disease Management Calendar**, which emphasizes “action periods” for implementing management strategies for specific diseases. The calendar year is divided into four action periods (dormant, budbreak, summer, and autumn) during which attention is focused on specific diseases and management practices important during that time of year. The calendar lists woody ornamentals by genus, common name, diseases, and control techniques.

The third part of this guide is a section of compiled **Fact Sheets**, which contains fact sheets for many common diseases. These provide more detailed information about the biology, spread, and management of specific diseases. The fact sheets can be photocopied for distribution to clients.