The Plant Doctor's LANDSCAPE TIPS

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WINTER MANAGEMENT TECHNIQUES

INTRODUCTION:

The dormant season in Michigan typically extends from about November through March. While there are many horticultural aspects that can be implemented during the winter season, people generally believe little can be done to manage diseases and pests in our landscapes during this time. Nothing could be further from the truth. Even though plants appear to be "sleeping" during the frigid months, the fact is that plants, diseases and insects are gradually changing through various stages during the winter to be prepared to again resume their activity in the spring. Actually, there is much we can do to interrupt the activity of diseases and pests during the winter. Following are some examples of procedures we can implement dormantly to manage various problems in our landscapes. In fact, some activities are best implemented during the winter months rather than during the warm season.

PRUNING:

Pruning is a horticultural technique that may serve various functions. Typically, pruning is performed to alter a plant's appearance through thinning, shaping and eliminating unwanted and sometimes dead plant material. Pruning is often performed during the warm season; unfortunately, pruning during the warm season increases the chances of disease infections and insect attractions on many plants. Dormant pruning provides an alternative practice to minimize these problems. We know for example, it is very dangerous to prune oaks during the summer months because sap beetles may transmit the lethal oak wilt fungus to fresh wounds created while pruning; if transmitted, the fungus may kill large oak trees in less than a month. In the case of oak wilt, pruning is best performed only during the dormant season, when the likelihood of transmitting oak wilt is practically zero (Photo 1).

Pruning also provides an important means to help control diseases and pests. In some situations, pruning is a better practice than any other management technique. Fire Blight is a very serious bacterial disease of many rosaceous plants such as apple, crabapple, pear hawthorn, mountain ash, cotoneaster, pyracantha, etc.; on many plants the disease may be lethal. There are virtually no chemical controls that can be applied during the growing season to thwart bacterial spread and infection. Without doubt, the best procedure is dormant pruning of overwintering bacterial cankers from which the bacteria infect new shoots and blossoms of plants the following season (Photo 2).

FALL/WINTER CLEAN UP:

On deciduous and even on evergreen plants, foliage is cast from trees and shrubs in the fall. This foliage often carries with it various insects and diseases that must utilize this organic matter to survive over winter so that in the spring, they may once again resume their activity on plants as they emerge from dormancy. Many fungal diseases including Tar Spot (Photo 3), Scab of Crabapple and Apple, anthracnose, powdery mildew as well as many needle cast diseases on conifers reside in plant refuse and actually use the plant refuse to mature into specific spore forms for release and infection in the spring, when our plants are emerging from dormancy. Removal of infected plant refuse from the landscape and subsequent alteration by composting, burying or burning to minimize survival of these fungal organisms is a viable cultural practice that can help reduce disease incidence the following season. Probably the best and most environmental approach is to thoroughly compost the plant refuse to kill fungal pathogens. Taking the material off-site for composting is helpful but not necessary. After composting, the material may be redistributed onto the landscape to provide natural fertilizer nutrients and help to build up the soil as an amendment.

NUTRIENT AND PESTICIDE APPLICATION:

Many fertilizers can be applied during dormant periods so that they will be dissolved and distributed through the soil for utilization by plants during the early spring. Chemical pesticides, both synthetic and "organic," may also be applied dormantly with significant effect. Some of these applications may be considered more environmentally friendly than waiting to apply human-made synthetic chemicals during the growing season. For example, dormant oils can help to manage many scale and other overwintering insect forms on plants. Dormant oils have also shown some activity against various diseases. Soil drenches of insecticides to help manage Emerald Ash Borer on ash trees can also be applied during the dormant season provided there is little risk of run-off before absorption into the soil. Some of the oldest and most basic disease control elemental chemicals (examples: lime and sulfur) can be applied during the winter and early spring to control specific diseases on plants before growth resumes in the spring.

There are many additional techniques that can be employed during the winter season to help manage our landscapes. A thorough knowledge of specific issues is necessary to enact various winter management techniques for maximum benefit.

Photo 1: Due to the potential transfer of the lethal oak wilt fungus during the spring and summer, oaks should only be pruned during the cold winter months when there is little chance of spread and infection of the disease.

Photo 2: Winter holdover cankers harbor this lethal disease known as Fire Blight, caused by an Erwinia bacterium. Pruning these cankers from infected trees during the dormant season is the most effective management strategy for this disease.

Photo 3: Tar spot lesions can still be defined in these fallen leaves, which serve to help the fungus overwinter in preparation for infections of new foliage the following spring. There is potential for lessening this disease on maples by removing these leaves from the landscape or destroying the fungus in these leaves by burying, burning or composting.