



STATE COLLEGE BOROUGH

PROTECTING OUR URBAN FOREST

Pests, Insects, & Diseases to Look Out For



Tunneling due to elm bark beetles

Dutch Elm Disease

Dutch elm disease is caused by the fungus *Ophiostoma ulmi* and can be extensively spread through an insect vector, the elm bark beetle, or root grafts of closely spaced trees infected with Dutch elm disease.

Introduction

American and slippery elms are among the most susceptible to Dutch elm disease locally while Siberian and Chinese elms are highly resistant. In addition, some Dutch elm disease resistant hybrids are available.



Elm bark beetle



Healthy American elm trees

History

The State College Borough maintained a significant population of American elms for many years through effective use of sanitation practices and chemical control of both the fungus and insect vector.

Signs & Symptoms



Flagging of an infected elm



Tunneling due to elm bark beetles

The first sign of Dutch elm disease is the wilting and yellowing of 1 or 2 branches, this is referred to as flagging. Progressively, more and more branches will begin to exhibit symptoms. Branches and outer layers of sapwood (the wood just below the bark) will then show brown streaks. As branches die and bark falls away, tunnels can be seen in the wood.

Though these signs and symptoms listed are indicative of infection with Dutch elm disease, the only definitive way to determine if a tree has Dutch elm disease is to have samples tested at a plant pathology lab.

Control Measures

In terms of preventative measures, all pruning of elms should be restricted to the dormant season.

A combination of sanitation and beetle control is necessary to slow the spread of Dutch elm disease, though all dead and dying elms should be cut down as soon as Dutch elm disease is detected.

The State College Borough has injected infected elms with cacodylic acid or monosodium methyl arsonate so the tree becomes very attractive to the beetles and will then serve as a trap. As a result, the number of beetles in the area are greatly reduced. Lastly, adjacent healthy trees should be injected with a fungicide and all possible root connections should be severed.



Treatment of infected elm