Bartlett Tree Research Laboratories

PLANT HEALTH CARE REPORT

American Elm

American elm (*Ulmus americana*) is a large, grand shade tree that is adaptable to urban sites. It transplants easily and grows rapidly under most conditions. Leaves are lustrous, dark green in the summer turning yellow in the fall.

Summer foliage

American elm grows best in full sun but tolerates moderate shade. It is adaptable to a wide range of soil pH (5.5 to 8.0) and tolerates compacted clay and sandy soils as well as most soils in-between. However, American elm grows best in nutrient-rich, moist, well-drained soils.

The most common and well-known disease affecting American elm is Dutch elm disease (DED). This fungal wilt disease is transmitted by twig- or trunk-feeding beetles and root grafts. DED plugs the vascular system of the tree causing branches to wilt or flag. Sometimes, flagging is first noticeable in the upper branches, but this symptom may be seen throughout the entire tree within a year.

Fall foliage

Bacterial leaf scorch is another wilt disease that infects American elm. As its name implies, it causes scorching or yellowing of the leaf

Continued on page 2

margins, often visible in late summer. Symptoms are sometimes confused with DED; however, bacterial leaf scorch symptoms appear in late summer. Another wilt disease, elm yellows, causes yellowing, thinning, premature leaf drop, and eventual death. American elm is susceptible to powdery mildew, which causes leaves to appear white during the summer. Another common fungal disease, referred to as black spot of elm or elm anthracnose, causes black spots on leaves and premature defoliation.

Adult elm leaf beetles commonly chew holes in the leaves while larvae feed on the lower surface of leaves giving them a lacy, or skeletonized, appearance. These leaves may brown and prematurely drop. Several sap-sucking insects attack American elm: Elm scurfy scale, lecanium scale, and aphids are three of the most common.

Monitoring and Treatment Considerations for American Elm

Mid-winter

Remove dead, dying, diseased, and broken branches. Remove pruned wood from the area to reduce bark beetle populations.

Late winter

Apply dormant treatment to suppress overwintering insects.

Mid-spring

Apply fungicide treatment to protect from black spot of elm if there is a history of this disease. Inspect for DED flagging.

Late spring

Repeat treatment for black spot. Inspect for DED flagging. *After leaf expansion, inject flare roots to prevent/treat DED. After leaf expansion, inject flare roots to suppress symptoms of bacterial leaf scorch if confirmed. Monitor for elm leaf beetle; treat as needed.

Summer

Apply fungicide treatment to suppress powdery mildew as needed. Inspect for DED, elm yellows, bacterial leaf scorch, and powdery mildew. Monitor for leaf-feeding insects; treat as needed.

Fall

If leaf-feeding insects were problematic this past growing season, consider treating with an appropriately timed systemic product. Remove fallen, diseased leaves.

*Criteria such as stem size (DBH), application interval by cold hardiness zone, and therapeutic rate for diseased trees will impact treatment options.