

soils. Also, where soil aeration is poor, it may be possible to improve it with soil amendments or such special drainage facilities as vertical mulching or drilling through compacted layers.

Finally, the selection of trees still looks extremely important. For a given size of trunk, zelkovas had much less massive roots than mulberries, and such differences seem likely among a number of species. Yet, adjacent to sidewalks, some cities continue to plant camphors, liquidambar, mulberries, and other species with unusually severe root problems. If nothing else, our research may "document the obvious" and help city arborists recognize some of the worst troublemakers.

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ABSTRACT

WINK, L. 1984. **Scientists search for clues to American chestnut mystery.** Am. Nurseryman 159(2): 93-94.

The American chestnut story unfolds like a biological murder mystery, complete with several incongruous elements that add to the intrigue. Dennis Fulbright, a Michigan State University plant pathologist, is attempting to unravel the biological phenomena that are producing the disease-fighting reaction so that synthetic vaccines can be produced. Eventually, he hopes to come up with natural inoculants to fight Dutch elm disease and stone fruit diseases. What intrigues Fulbright is that some Michigan trees have never been infected by chestnut blight. These healthy trees have been found both in isolation and in the midst of infected groves. At this point, scientists do not know how to protect healthy American chestnut trees other than by giving them a mild form of the blight, which causes scar tissue to form as a byproduct of immunity. Fulbright's investigations in the laboratory have now identified six virus-like molecules that are able to trigger the production of hypovirulent fungal strains.