

Epidemic Effects Landscape Trees

Vincent Controne
Extension Forester

There is an epidemic spreading throughout the state and country that is slowly killing trees and shrubs in our landscapes. No, it isn't another disease or insect we accidentally imported from another country, such as the Asian Longhorned Beetle that is killing trees in New York City and Chicago or Dutch Elm Disease, which changed our landscapes in the 1960s and '70s. And unlike some of these imported pests, this epidemic can be prevented very easily.

This epidemic is caused by misapplication of mulch around our trees and shrubs. We are over-mulching our trees and shrubs to death. Mulching is a terrific way to add organic matter and nutrients, conserve soil moisture, and prevent lawn mowers from injuring trees and shrubs, but it is just being put on way too thick and piled too high on trunks and stems.

When mulches are put on too thick and piled against the stems of trees and shrubs, they begin to suffocate roots and create a moist environment in which opportunistic decay fungi such as *Phytophthora*, *Armillaria*, and *Leptographium* attack the trunk and roots, causing root rots, a decline in plant health, crown dieback, and tree failures. Besides causing the roots and stems to rot, over-mulching prevents the movement of oxygen and carbon dioxide in and out of stems; leads to rodent chewing and stem girdling, nutrient deficiencies, and the production of toxic organic acids; and often

causes roots to grow up into thick mulch, only to dry out in hot summers, or form girdling roots that encircle the trunk.

It seems to be fashionable these days for landscapers and homeowners to create these mountainous mulch "vol-

canoes" at the base of trees. Unfortunately this continues because there is a lack of knowledge about how trees really grow and the harm caused by this practice.

A quick walk in the woods

will illustrate how trees have a natural flare where their trunks meet the soil (visible even on young trees). It is important that we not cover that flare with soil or mulch. Spread the mulch out in a layer that is no thicker than 3-4 inches, and don't pile it up

on the trunks of trees and stems of shrubs.

Mulching your trees and shrubs can improve soils and grow healthy plants, but too much of a good thing can be harmful.

'Sweet Trees' From Genetic Improvement

EBENSBURG (Cambria Co.) — The hot topic of genetic improvement programs is no new thing to the maple syrup industry.

"In the 1940s and 1950s, sugar maple researchers at the U.S. Forest Service Philadelphia Research Center began to understand that sugar content was a genetic factor and began testing many species of sugar maples across the country to learn more about breeding a 'sweet tree,'" said Colin Campbell, director of the Cornell-Uihlein Sugar Maple Research/Extension Field Station near Lake Placid, N.Y.

Then, in the 1960s, under the direction of Dr. William Gabriel, "sweet tree" research continued with the testing of more than 21,000 trees in the northeast U.S. for sugar content.

"Fifty-three trees were selected as suitable parents and these were cloned as rooted cuttings and placed in an isolated orchard," said Campbell. In the last 10 years, additional parents have been located, cloned, and planted in the Cornell-Uihlein Sugar Maple Field Station's clonal orchards.

As part of Campbell's re-

search and extension program, the field station near Lake Placid provides local maple producers the opportunity to receive up to 20 genetically improved sugar maple trees annually. This year, with the help of Penn State Cooperative Extension, three local growers were able to receive "sweet trees."

The growers were Eric Arnold from Rockwood, Romauld Caroff from Windber, and Ger-

gory Gerhard from Rockwood. In order to participate in the program, each grower had to get on a waiting list, agree to allow access to the trees for testing, document the growth of each tree annually, and pay the field station \$5 per tree to cover costs.

The trees arrive in cardboard boxes as bare-root seedlings less than two feet high.

Because of the improved genetic potential of the trees, the

survival rate is about 90 percent or higher. The new trees, planted this year, should be ready to tap for sap and syrup production in about 25 years.

To learn more about the Sugar Maple Tree Improvement Program, go to the Website, http://maple.dnr.cornell.edu/tree_impr/index.asp, or you can call Penn State Cooperative Extension in Cambria County at (814) 472-7986

Penn State Offers Program For Turfgrass, Ag Equipment Techs

UNIVERSITY PARK (Centre Co.) — A program offered by Penn State's College of Agricultural Sciences will help meet the needs of the turfgrass and agricultural equipment industry for highly qualified service technicians.

The Turfgrass and Agricultural Equipment (TAE) Service Technician Certificate program will train technicians to meet the needs of this service area.

Developed with input from industry representatives serving on an advisory council, this two-year certificate program is offered at the University Park

campus through a two-year sequence of four eight-week sessions.

"Offering the TAE program in four eight-week sessions each year allows individuals to work in the turfgrass and agricultural equipment industry when not at school," said James Hilton, associate professor of agricultural engineering and program director. "Sessions will be offered back-to-back with the fall session running from mid-October 2003 through late December 2003, and the spring session running from mid-January 2004 through early March 2004."

The first-year curriculum includes mathematics for turfgrass and agricultural service technicians, hydraulic applications, engine technology, electrical systems, computer basics and applications, safe equipment transport and shop practice, communications and public relations, power transmission

applications, turfgrass and agricultural equipment, and business concepts.

Subjects covered during the second year include electronic applications, electro-hydraulics and hydrostatics, agronomy or turfgrass principles, machinery management for turfgrass, written communications and agriculture business applications, inventory management, agricultural equipment operation, shop management, turfgrass and agricultural equipment operation, irrigation systems and water management, power units, traction and weight transfer and diagnostics, repair and maintenance.

For more information, contact James W. Hilton by mail at The Pennsylvania State University, 232 Agricultural Engineering Building, University Park, PA 16802, (814) 863-1817, or e-mail at jwh2@psu.edu

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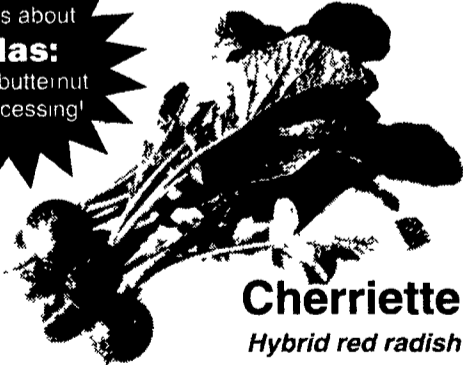
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