

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: What can you tell me about an environmental disease called red belt? (New York)

A: Red belt of needle-leaved conifers occurs most frequently when a sudden temperature drop during the winter months follows an unseasonably warm spell. Needles turn reddish or brown as the tissues become plasmolized and desiccated, then die. A distinct "belt" of injury occurs when warm air sweeps across mountain tops without mixing with the cold air in the valleys below. Rapid warming and drying occur along this belt. At night the border between the two air masses infuses with cooler air, subjecting the trees in the border zone to alternating warm and cool temperatures. Often these belts or bands of damaged trees are so sharply defined that only the tops of trees are affected at the lower edge of the damage zone while only the lower parts of the trees are affected at the top of the zone.

Q: I have been told that natural gas is not toxic to trees, yet a gas leak can kill trees. How is this possible?

A: An extremely low oxygen content may be caused, in part, by the displacement of the soil air by the leaking gas, but more so by intensive oxygen consumption as a result of methane oxidation. (Methane is the primary component of natural gas.) Methane-consuming bacteria multiply in methane-contaminated soil, using up the oxygen and giving off carbon dioxide. In a normal soil in which there is no natural gas, there are few or no methane-consuming bacteria. Therefore, just after the start of a gas leak, the rate of oxidation of methane is slow. However, after a period of time the methane-utilizing bacteria increase and, in turn, the concentration of oxygen in the soil decreases.

Q: How can one tell if an oak is infected with Hypoxylon canker? What is the latest information on control? (Texas)

A: Hypoxylon canker can be identified by the dark-colored, crusty fungus tissue on the dead cankered area. Large pieces of bark may slough off, exposing the fungus beneath. Spore masses may vary in color from tan to bluish-gray to black. Willow and water oak appear to be the most susceptible, followed by red oak and occasionally post oak.

Since Hypoxylon canker is primarily a weak pathogen, invading weakened trees, the best form of protection is proper care of your trees.

Protect trees from construction damage, including mechanical wounds, soil compaction, grade changes and fill dirt over the root area. Water trees during drought, fertilize properly and control insect and disease pests to reduce stress. Prune out any branches showing early infection to reduce the amount of spore inoculum.

Q: Where can I obtain more information on the losses that can be deducted from federal income taxes?

A: The IRS will accept appraisals made by consulting arborists approved by the Council of Trees and Landscape Appraisers, headquartered at 232 Southern Building, Washington, D.C.

Two pamphlets which are furnished free by the IRS are: Publication 547, "Tax Information on Disasters, Casualties, and Thefts," and Publication 584, "Disaster and Loss Workbook."

Q: We have a new aphid in our area that causes witches'-broom on honeysuckle. Can this aphid be controlled in the same manner as other aphids, and are there any varieties of honeysuckle which are not affected? (Illinois)

A: The aphid *Hyadaphis tataricae* damages the terminal growth creating a weak, spindly "witches'-broom." The stunted terminals have tiny, folded leaves as a result of the aphid feeding. The small green aphid was first noticed in 1979 and has now spread throughout northeastern Illinois.

Tatarian (*Lonicera tatarica* Zabel) and Amur (*Lonicera maachi*) honeysuckle are particularly susceptible, but the aphid has also been reported on *Lonicera bella*, *L. mune-deniensis*, *L. conjugialis*, *L. minutiflora*, *L. morrowi*, *L. amoena*, *L. repectiana*, and it may affect other species. Dwarf honeysuckles apparently are not affected.

Control is the same as for other aphids. Spray overwintering eggs laid low on the plant with dormant oil. Control aphids which appear during the season with malathion, forcibly sprayed to penetrate the curled leaves.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.



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