

Trimnings

Since 1937, the town of Ridge-wood, N.J. has been applying an old-time remedy for ridding sewer lines of tree roots. The town distributes quarter-inch crystals of copper sulphate which they turn over to house owners in quart-size cardboard containers holding slightly less than two pounds of material.

Instructions call for crystals to be poured into porcelain toilet bowls which are connected by a lead bend to the soil pipe (never into sink which has a thin-walled trap). Flushing and agitating with a plunger makes sure all crystals are carried down the drain and assures no damage or stain to the porcelain.

Twice-a-year treatments give excellent control of roots in tile sewer connections and there is no evident injury to trees or plants whose roots are killed. Back in 1961, the township discontinued the program for one year and found the cost of maintaining sewer lines rose 40 percent. They continued the program, it was reported in a recent newsletter of the American Horticultural Society and excerpted in the *Journal of Arboriculture*.

The Irrigation Division of Toro Company has published a 175-page design manual entitled *Residential and Commercial Turf Irrigation Systems Information*.

Intended for use by architects, landscape architects, contractors and other specialists involved in the designed installation of automatic underground sprinkling systems, the manual is a companion publication to *Design Information for Large Turf Irrigation Systems* published in 1972.

The book is available from Toro Irrigation distributors or directly from Order Desk, Irrigation Division, The Toro Company, P.O. Box 489, Riverside, Calif., 92502 for \$6.75, postage prepaid.

Union Carbide Corp. has published a free 30-page bulletin describing nematode damage and how to control it with chemicals.

The bulletin is entitled *Nematodes and Their Control* and can be obtained by writing the company at P.O. Box 1906, Salinas, Calif., 93901.

Increasing pressures to conserve energy will lead to widespread use of sewage water for irrigation and fertilization, according to James W. Adams, vice president and general manager of the Irrigation Group of Toro Company, Bloomington, Minn.

He said golf courses will be among the first to make extensive use of recycled sewage water but the practice will spread to all types of turf and vegetation management, including agriculture.

"The advantages of on-land disposal of sewage water have been well known for years," he told **WEEDS, TREES & TURF**. "But interest in on-land disposal systems is now accelerating because of the combined effects of water shortages and the energy crisis." The latter, he said, has increased costs for pumping water and for fertilizers derived from oil and natural gas.

With state and federal laws now requiring sewage water disposed into lakes or streams be virtually pure, alternative systems for disposal are becoming more attractive, he said. "And when you consider that the principal pollutants in sewage water are nitrogen and phosphorus — which all plants must have in order to grow — it doesn't make sense to be wasting both water and nutrients, as well as the energy to dispose of them, when it isn't necessary," he said.

To people, the brilliantly colored dying leaves in autumn are a source of beauty, but to the tree they mean survival, says Dr. Patricia W. Spencer, University of Illinois horticulturist. Shortly after a leaf begins to lose its chlorophyll (in autumn) it also begins to lose the ability to retain water and remain turgid, she reported in a recent newsletter of the American Horticultural Society.

The membranes surrounding each cell become leaky and no longer act as semi-permeable barriers to solutes in the cell sap. Cellular fluids ooze out of the cells and

flood the intercellular spaces, rendering the leaf translucent, like cooked celery or spinach. This state of affairs does not last long, for the water soon evaporates, leaving the leaf drooping, dry and shriveled. The now-desiccated brown leaf falls from the tree and becomes matted into the ground below.

As autumn rains and winter snows percolate through the matted, fallen leaves, they remove traces of minerals, especially calcium, and return them to the soil, where soil bacteria and fungi feed upon them. The leafy skeletons of cellulose that remain on the surface act as a mulch, holding in soil water and modulating soil temperatures.

By the times the visible signs of this aging appear, the leaf has already undergone a series of events that will lead to its eventual death and the tree's survival. Before it finally falls from the tree, dry and brown, the leaf will have returned more than half of its nitrogen, phosphorus and potassium to the permanent tissues of the tree, plus some magnesium, sulfur and manganese. Calcium, which is not easily removed, is the only mineral element remaining to any degree.

Even evergreens, which remain green and retain their chlorophyll-filled foliage throughout the winter, eventually shed their old leafy growth and undergo a similar reclamation of mineral elements. This reclamation of mineral elements from dying tree leaves, along with concurrent removal of carbohydrates, is not merely an illustration of natural conservation; it is a process absolutely essential to future growth, she said. The report was excerpted in the *Journal of Arboriculture*.

The American Society of Landscape Architects Foundation recently published Award Winning Landscape Architecture.

Winning entries in the ASLA Professional Awards Program, for the years 1970 through 1974 have been depicted in photos; drawings have been reproduced; and the comments of the award juries are presented. For information write: ASLA Foundation, 1750 Old Meadow Rd., McLean, VA 22101.