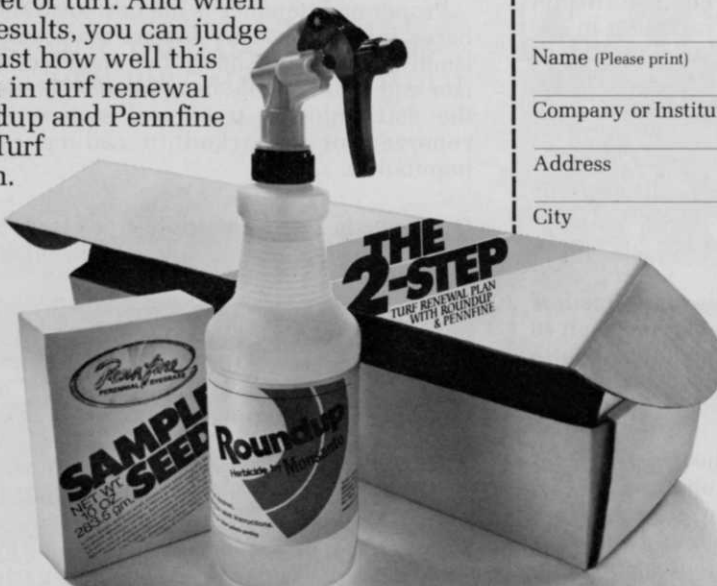


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# VEGETATION MANAGEMENT

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

**Q:** How do you remove an oil spill from turf?

**A:** The only reference that I could find suggested applying detergent granules to the contaminated area and hosing with a vigorous spray application of water. The suds will float the oil to the surface and should be removed with a vacuum. Treated turf should recover in about two weeks for most petroleum product spills.

**A:** Can phloem necrosis be treated successfully with chemicals?

**A:** Phloem necrosis is caused by a submicroscopic mycoplasma-like organism and is spread by the whitebanded elm leafhopper (*scaphoideus luteolus*) and possibly by other leafhoppers. Injections with tetracycline have resulted in symptom remissions in some cases, but in most Northern areas death occurs so soon after symptoms occur that treatments are impractical.

**Q:** What will be the effects of newly installed high sodium light fixtures on trees and nursery stock?

**A:** High pressure sodium (HPS) lamps emit light in the red wave lengths which triggers continuous growth in some woody and herbaceous plants. Prolonged shoot growth and leaf retention expose plants to frost injury and winter dieback.

Dr. Cathey, horticulturist with the U.S. Department of Agriculture Science and Education Administration, has tested over 50 kinds of trees and shrubs and classified them according to their sensitivity to night lighting. This sensitivity should be considered when selecting trees for areas in close proximity to HPS lighting. Consideration should also be given to metal halide or improved mercury lighting, both of which are less energy-efficient than sodium lamps but have less radiation in the wave lengths that induce continuous growth.

Low pressure sodium lamps are said to have little or no effect on plant growth at the intensity used for outdoor lighting.

**Q:** I'm considering using milky spore disease this season, but would like to know all the facts. All the information I've reviewed thus far has been one-sided or "sketchy."

**A:** The bacteria, *Bacillus popillae* and *Bacillus lentimorbus* infect the white grubs of more than 40 species of beetles, although the Japanese beetle grub is the most extensively affected and is the only beetle grub for which milky spore bacteria is registered.

Commercial preparations of the bacteria are made by grinding up infected grubs and mixing with talc powder. The preparation is usually applied in a 4-foot grid pattern at a rate of two grams per spot. Spring and fall applications are recommended although treatments may be applied anytime the ground is not frozen.

The spores are spread from the spot areas by in-

fecting grubs, water movement and by other natural agents. The bacteria are host specific, and do not infect insects other than beetle grubs nor will they infect earthworms, birds, mammals or plants.

In spite of the obvious desirability of biological control, I am aware of only a few milky spore control programs that have been successful. Beetle populations and resultant injury to ornamentals are not reduced significantly unless treatments are done on a community basis. In addition, considerable turf injury can occur for several years following treatment until the bacteria have had sufficient time to spread throughout the soil. Insecticide applications during this initial establishment period are generally not compatible with a milky spore control program because insecticides kill the grubs necessary for multiplying and spreading the bacteria.

**Q:** I have received various treatment methods for bark beetles infesting different species of pine trees in this area (California). These trees are advanced in growth, usually 6" to 36" in diameter at the base, with rough bark. Please advise on best treatment and chemical use, particularly where the pests have already bored into the live wood.

**A:** Little can be done to control borers once they are beneath the bark. Insecticides do not penetrate the bark sufficiently to kill many of the larvae, and trying to dig them out may destroy a larger area than the borer would destroy if left alone.

Trees can be protected from beetle infestation by spraying the trunk with lindane, being careful to thoroughly cover all bark surfaces and crevices. One application in early March is recommended for your area of California.

Proper maintenance is the best insurance against borer infestation. Any factors that cause a stress condition on trees should be remedied, and fertilizer and water should be applied when deficient in the soil. Infested trees and stumps should be removed or debarked to reduce the insect population.

**Q:** How can I prevent apple trees from producing fruit? Can this be controlled by pruning or using chemicals without damaging foliage?

**A:** There are a number of chemicals registered to eliminate undesirable apples, but we have not had consistent results with the products we have tested. Timing and environmental conditions are major factors in determining the degree of control, and apple varieties may differ in their response.

Union Carbide produces a plant growth regulator with the trade name FLOREL™ which gave very good results without noticeable injury in a limited test last year. We are planning to continue the study on a wider range of apple varieties. The only limitation stated on the label is that fruit elimination may not be satisfactory on small, red-fruited varieties of crabapples.

Room 447, East Tower, 401 M St. S.W., Washington, DC 20460; and Federal Aviation Administration, Office of Chief Counsel, ATT: Rules Docket (AGC-24), Docket 19448, 800 Independence Ave., S.W., Washington, DC 20591.

SOIL

**College to give workshop on tree soils**

The State University of New York College of Environmental Science and Forestry (ESF) will host a five-day workshop on North American tree nursery soils July 28-Aug. 1.

Co-sponsored by ESF, the U.S. Forest Service, and the Canadian Forest Service, the workshop is designed to instruct tree nursery managers in the methods and benefits of managing tree nursery soils.

According to Dr. Lawrence P. Abrahamson, senior research associ-

ate at ESF and general program chairman for the workshop, the workshop will provide nurserymen with information on how to grow better seedlings faster and at a lower cost through soil analysis and management.

Some of the topics which will be covered include basic nursery soil physical properties, soil sampling techniques, the relationship between seedling growth and development and soils, seedling insect and disease problems related to nursery soil conditions, and nursery soil fertility.

For further information, write: Dean, School of Continuing Education, SUNY College of Environmental Science and Forestry, Syracuse, NY 13210.

HORTICULTURE

**Indiana nurserymen present new award**

In honor of the late Robert Forbes of Vincennes, IN, the first Robert

Forbes Memorial Scholarship was presented at the Indiana Association of Nurserymen's annual winter meeting. The first winner was Mary K. Primus, a student at Vincennes University.

Friends of Mr. Forbes established and funded an endowment in his name which will provide an annual \$500 scholarship to a second year Landscape Horticulture student at Vincennes University. Each winner also receives a plaque.

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*Continues on page 60*



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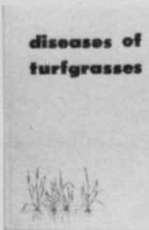
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### TURF IRRIGATION MANUAL by James Watkins

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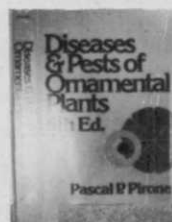
### TREE MAINTENANCE Pascal Pirone

The fourth edition of this guide for anyone involved in the care and treatment of trees. Special sections on tree abnormalities, diagnosing tree troubles, non-parasitic injuries and assessing the suitability of different trees throughout the country.  
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### DISEASES & PESTS OF ORNAMENTAL PLANTS by Pascal Pirone

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Because shade trees require specialized maintenance rarely used in the forest, this text seeks to aid the arborist in providing necessary care to maintain vigor and prevent shade tree diseases. An in-depth look at infectious and non-infectious tree diseases. Plant pathology not necessary.  
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### TREE SURGERY by P.H. Bridgeman

This practical guide to equipment required and operation methods attempts to give an up-to-date picture of the modern industry. Includes illustrative photographs and detailed line drawings.  
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### THE PRUNING MANUAL by Everett P. Christopher

Latest information on pruning fruit and shade trees, ornamental shrubs and roses. 100 diagrams and photographs. Sections also devoted to forestry, grafting, root pruning, wound treatment and tools.  
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### TREE CARE by John M. Haller

Urban trees are subjected to every kind of environmental stress and abuse requiring continuous attention to keep them healthy. This book gives you the how-to's of planting, feeding, pruning, repairing and defending trees against their enemies with special coverage of environmental damage and miscellaneous troubles.  
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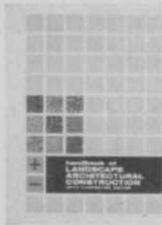


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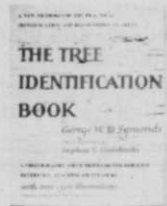


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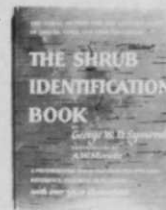


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# The Land Reclamation Report

## Acid rain follows SO<sub>2</sub> emissions in soft coal holdup

As workable compromises for sulfur dioxide emissions are being worked out and utility companies have installed costly scrubbers, a new threat to soft coal use is gaining momentum, acid rain.

The governor of a large coal using state, Ohio's James Rhodes, has appointed a task force to get solid answers on acid rain. Dr. T. Craig Weidensaul, environmental studies laboratory head at Ohio Agricultural Research and Development Center in Wooster, has been named chairman of the eight-member group. Members of the group include Ohio Mining and Reclamation Association President Neal Tostenson, environmental control managers of utilities and key university staff members. Rhodes has defended Ohio industry against acid rain accusations from Federal and bordering state officials.

Weidensaul said there are many other minerals besides those in coal which mix with rain to form acid

rain. Pinpointing the sources of the other minerals will be difficult, however.

## Windfall tax passed, Coal conversion urged

Funds from the windfall profits tax will be used to convert 107 units at 50 powerplants to coal and to provide pollution reduction devices at existing coal-powered generating plants.

A total of \$4 billion is allocated for the conversion in the first phase. Another \$6 billion will be spent in phase two in an effort to trim oil imports by one million barrels per day by 1980.

## Reforestation is topic of Texas short course

The focus will be on reforestation of strip mined land during the first an-

nual short course sponsored by the Texas Agricultural Extension Service Forestry Project at Texas A&M, College Station, June 9-11.

The program will include sessions on soils, site preparation, species and utilization. Information will apply to any disturbed soils. Sessions begin at 1 p.m. Registration fee is \$40 and includes a copy of the proceedings. For more information contact Dr. Michael Walterscheidt, Department of Forest Science, Texas A&M, College Station, TX 77843.

## Wind erosion damage in plains tripled

Wind damaged almost three times more land than the year before in the Great Plains due to low fall rainfall and lack of snow cover. Texas was hardest hit of the Plains states with more than one million acres

*Continues on page 60*

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# SOD PRODUCER NEWS

## Study relates effect of petroleum spills on turf

A field study conducted on "Tifgreen" bermudagrass has determined the injury symptoms and subsequent recovery rates from petroleum spill damage.

D. Johns and J.B. Beard of the department of soil & crop sciences, Texas A&M University, applied five petroleum products commonly used in turf-grass maintenance equipment—gasoline, motor oil, hydraulic fluid, brake fluid, and grease. They then attempted to treat the turf with calcined clay fines, activated charcoal, and detergent.

The detergent washing proved to be an effective treatment for turf with spilled hydraulic fluid, brake fluid, and motor oil. In two cases, they achieved complete recovery three to six weeks sooner than with other corrective procedures.

None of the corrective treatments were effective on either the gasoline or grease damaged turf. The bermudagrass recovered rapidly (three to four weeks) from gasoline spills without corrective procedures. It took more than 10 weeks to recover from grease spills.

## Sod Producers prepare for summer meeting in Canada

The American Sod Producers Association will be holding its annual summer conference in Edmonton, Alberta, Canada, and expects a good turnout, according to convention chairman, Don Stumborg.

Highlights of the conference expect to be a tour of the 400-acre Big Lake Sod Farm, where an irrigation demonstration will take place, and the annual field day at the 2,000-acre Gem Sod Farms. Exhibits during the field day will include a variety of seed and sod equipment, chemical companies, and others concerned with the sod industry.

The conference will run from July 20-22 and simultaneously with the Klondike Days, a 10-day fair which commemorates the discovery of gold in the Yukon Territory that made Edmonton a gateway city to the north. For more information, contact ASPA Executive Director, Bob Garey, 9th and Minnesota, Hastings, NE 68901, 402/463-4683, or Don Stumborg, Gem Sod Farms, Ltd., RR 6, Site 3, Box 25, Edmonton, Alberta, 403/973-3311.

## Banner Chewings Fescue gains Canadian license

An outstanding new Chewings Fescue variety, named Banner, has been awarded a Canadian license by Agriculture Canada, Plant Products Div. in Ottawa on an application by Oseco Inc. of Brampton, Ontario. Banner was developed by the New Jersey Agricultural Experiment Station, Rutgers University, New Brunswick, NJ, and was released in 1975. It was awarded a USDA Plant Variety Protection Certificate in 1977.

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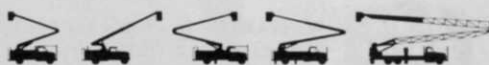
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### Reclamation

from page 56

damaged. South Dakota, Kansas, and Montana also ranked high in damage.

Of the total acreage damaged, 96 percent was cropland and three percent was rangeland. Topsoil loss of cropland is a critical problem with American agriculture supporting such measures as no-till farming and planting a cover crop during unproductive months. Rangeland losses are considered a threat to wildlife and natural fauna and floral.

### News from page 53

ways. Application of the Rhone-Poulenc product should begin when conditions first become favorable for disease development. Two additional applications should be made at 14 to 21 day intervals.

Chipco 26019 is also registered for control of Dollar Spot (including Benomyl resistant strains), Brown patch, Helminthosporium leaf spot and melting out, Fusarium patch, and suppression of gray and pink snow mold.

### SOIL

#### No-tillage cuts K leaching losses

Potassium leaching is a serious problem on sandy soils, but Delaware Agricultural Experiment Station researchers have found that no-tillage reduces the problem dramatically.

The researchers compared fields that were in continuous corn for eight years, from 1972 to 1979. Half the plots were plowed, disked, and cultivated, while half were planted without tillage in corn crop residues from the previous season.

In each case, 200 pounds of potash were broadcast each year for the entire period. By 1979, there was about 60 percent more soil potassium at the zero-to-three-inch soil depth on the no-till fields.

On the tilled fields, the level of soil potassium ranged from six parts per million (or 134 pounds per acre) at the zero-to-one-inch soil depth, to 127 parts per million (or 254 pounds per acre) at the six-to-nine-inch depth—clear evidence of leaching.