



PROHORT

Vol. 12, No. 4

Autumn 1994

GREENHOUSE PEST MANAGEMENT

Wednesday, November 9, 9 a.m. to 12 p.m.
Center for Urban Horticulture
\$15.00; fee includes CUH Parking fees, coffee breaks

Seminar earns 3 hrs. WSDA Pesticide Recertification Credit.

INSECT MANAGEMENT

Dr. Art Antonelli, Extension Entomologist, WSU-Puyallup, provides insect pest identification and life cycle information for a variety of potential greenhouse pests. He will also discuss management options.

DISEASE MANAGEMENT

Dr. Ralph Byther, Extension Pathologist, WSU-Puyallup, reviews greenhouse disease identification information and discusses management options for key greenhouse problems.

PRACTICAL IPM STRATEGIES

Dr. Hollis Spitler, IPM Manager for Skagit Gardens in Bellingham, reviews his greenhouse IPM strategies. He will share previous problems and outline current successes, including the use of cultural and biological controls.

PROHORT PROGRAM DEVELOPMENT

During the past year, different types of ProHort program formats and topic areas have been explored. Based on program evaluations, audience assessments, and other data from this past year as well as previous years, ProHort Seminars continue to undergo refinement. Next year will witness yet additional changes in program formats and topics, as well as program frequency and distribution. Programs to be anticipated include: numerous sessions on pruning techniques; tree selection and management topics; field evaluations of wetland and other design projects; and an in-depth, limited-enrollment pest management program series throughout the year. As always, please call to offer feedback, comments or suggestions.

OTHER EDUCATIONAL OPPORTUNITIES

The SOCIETY OF MUNICIPAL ARBORISTS 30th ANNUAL CONFERENCE & TRADE SHOW will be held in Seattle on October 2-6 at the Stouffer Madison Hotel in downtown. The theme is "Urban Forestry for the 90's". For registration information contact: Jerry Clark, Seattle City Arborist, Room 110, 600 4th Avenue, Seattle WA, 98104, phone (206) 684-7649.

The PACIFIC NORTHWEST CHAPTER OF THE INTERNATIONAL SOCIETY OF ARBORICULTURE ANNUAL TRAINING CONFERENCE will be held October 5-7 in Victoria, B.C. A Certified Arborist exam will be given on October 4 in Victoria as well. For information on the exam or the Conference, please contact the PNW ISA office at: P. O. Box 65054, Seattle WA, 98155, phone (206) 365-3901 or fax (206) 365-3903.

The ASSOCIATION FOR WOMEN IN LANDSCAPING'S WOMEN IN HORTICULTURE CONFERENCE "PROFITING FROM INTEGRITY", will be held November 19, 8:30 a.m. to 4:30 p.m., at the Doubletree Suites (Southcenter) in Seattle. For registration information, contact Anne Bustion at (206) 525-7844 or Lyn Dillman at (206) 937-2815.

EDMONDS COMMUNITY COLLEGE AUTUMN COURSES: Horticultural Tools & Equipment, Fall Plant ID, Plant Insects, Landscape Appreciation, Landscape Studies, Landscape Materials, Greenhouse Studies, Turf, Soils & Plant Nutrition, Bulbs & Bulb Gardening, Fruits & Nuts, Turf Soils, Grasses, Compost Technology, Sprinkler Installation and Repair. For information, call (206) 640-1679.

SOUTH SEATTLE COMMUNITY COLLEGE AUTUMN COURSES: Greenhouse Operations, Broad-leaved Evergreen ID, Landscape Design I & IV, Weed ID, Advanced Plant ID, Irrigation, Urban Tree Management, Maintenance Estimating & Bidding. For information, call (206) 764-5336.

LAKE WASHINGTON TECHNICAL COLLEGE AUTUMN COURSES: Backyard Wildlife, Botany for Interiorscapers, Composting, Fall Plant ID, Irrigation Design & Management, Lawns & Alternative Ground Covers, Mole Control, Native Washington Plants, Pruning & Landscape Renovation. For information, call (206) 828-5644.

ProHort Seminars are planned cooperatively by UW Center for Urban Horticulture and WSU Cooperative Extension—King County. South Seattle Community College and Edmonds Community College also assist cooperatively.

COMPOST DEMONSTRATION RESULTS

by Stephanie Allen, former CUH graduate student

A field study at CUH during the summer of 1993 tested the effects of various methods of yard compost (Cedar Grove Compost) application to raised beds growing lettuce, basil, and marigold. The study also evaluated the impact of compost on water use and plant and water quality. The control soil was a sandy subsurface soil, well-drained and extremely low in nutrients and organic matter, with no compost amendment or compost mulch added. CUH staff evaluated the impact on plant growth and soil moisture of amending the control soil by mixing in 40% compost, or amending and also mulching the soil surface with compost. In addition, to compare the effects of chemical fertilizer, the four treatments were matched with identical plots that received NPK fertilizer in one application in June. Leachate was collected from six treatments for evaluation.

There were two harvests over the duration of the study. In July, the basil was cut back by half and the lettuce was harvested. For both crops, the best growth occurred in the amended plus mulch plots and the control plus mulch plots.

Basil and marigold at the September harvest both showed a steady increase in growth as the treatments moved from control to amended soils, and unmulched to mulched soils. The data indicate that the biomass increased with increased compost use. Growth was greatest in treatments with amended soil plus mulch, and next greatest in soils amended with compost without mulch. Growth was least in soils with no compost amendment or mulch. In all treatments, the addition of NPK fertilizer increased growth. The greatest increase in growth was for those plants in the control plots.

The control loamy sand soil without compost held only about half the moisture as the soil plus compost mix. Laboratory testing showed 50-80% greater water release from compost amended soil compared to the control. Water quality of the leachate from each treatment was evaluated for nutrients and metals. Compost was shown to be a good source of NO_3 and PO_4 . Nitrate was retained best in amended plots but leached out of controls, showing the ability of compost amendment to retain nitrate. Phosphate was highest in leachate from amended and mulched beds. This suggests that low-phosphate fertilizer be used with compost to prevent the leaching of excess phosphate.

Results of the water quality analysis were similar in all treatments with no effects due to compost except for lead. All treatments, including the control with no compost/mulch,

had lead levels in the leachate exceeding water quality standards. The highest level was in the compost-amended treatments. These results are indicative of the high levels of lead found in urban environments and suggest the potential for water quality degradation where water is leached through compost.

The complete results, prepared by now-graduated CUH student Stephanie Allen, are available by contacting Gabriella Uhlar-Heffner at (206) 684-7666.

GRASSCYCLING DEMONSTRATIONS

by David McDonald, Cascadia Consulting

A comparative trial of mulching mowers is being conducted on the east lawn of the Center for Urban Horticulture. Sponsored by the Seattle Solid Waste Utility, with the support of CUH, these trials compare plots where clippings are bagged versus plots where clippings are left on the lawn—a procedure known as mulch-mowing or grasscycling. The grasscycled plots include trials of mulching retrofit blades for older conventional mowers, as well as trial areas for several new mulching mowers and the ever-popular push mower.

The intent of the season-long trial is to provide the Solid Waste Utility and other interested parties with information about mulch-mowing in the Pacific Northwest. Information gathered will help discern how well grasscycling will work in our wet springs and dry summers. We hope to determine whether or not residents can mulch-mow effectively with a conventional mower. We also want to know if mulching retrofit kits for conventional mowers will perform well under local conditions, and how these retrofits compare with the best new mulching mowers. Other issues being assessed include how gas mowers compare to rechargeable electric mowers, and how fertilization and irrigation regimes affect mulch-mowing effectiveness. Finally, assessments of the quality of the clippings generated will be made.

Preliminary results from the trials, which began in May, indicate that grasscycling is indeed a labor saving option for Seattle residents. Even under damp conditions lawns can be mulch-mowed with a conventional mower if the “one-third rule” is followed—take no more than one-third of the blade length (one inch maximum) at a mowing. If lawns grow too fast to stick to the one-third rule, better results can be obtained with an old-fashioned push mower. Better yet, consider buying a modern mulching mower, which can grasscycle even long or wet grass surprisingly well.

These trials are scheduled to continue through October, and are part of a series of events and trials around the city aimed at introducing residents and professionals to the benefits of grasscycling. A descriptive signboard on the east lawn of CUH provides further details of this study. For more information, or a *Grasscycling* brochure, please call the Compost Hotline at (206) 633-0224.

ABSTRACT THINKING:

Current Research Abstracts of Interest for Your Review

Compiled by Dana Kirley, CUH Continuing & Public Education Intern, and Dave Stockdale, CUH Continuing & Public Education Director

IMPROVED GROWTH OF PECAN AND ORNAMENTAL PEAR TREES IN CONTAINERS WITH WATER-HOLDING RESERVOIRS.

Tilt, Ken, Goff, William D, Williams, David, Shumack, Ronald L., and Olive, John W. *HortScience* 29(6): 649-651. June, 1994.

Pecan and pear trees in the nursery grew more in containers designed to hold water in the lower portion. The water-holding reservoir was obtained either by placing 76-liter containers in a frame holding water to a depth of 6 cm or by using containers with drainage holes 6 cm from the bottom. Continuous waterlogging at the bottom of containers resulted in root pruning and root death in the lower portion of the containers, but roots grew well above the constantly wet zone. Fresh weight of plant tops and trunk diameters were greater after two growing seasons in the containers with water reservoirs compared to those grown in similar containers with no water reservoirs. Total root dry weight was unaffected.

CLIMATE CONTROL, PART II: DESIGNING ENERGY EFFICIENT RESIDUAL LANDSCAPES FOR TEMPERATE REGIONS OF THE U.S.

Moffat, Anne Simon, and Schiler, Marc. *American Nurseryman*: 74-91. July 1, 1994. Abstract written by Dana Kirley.

The U.S. Department of Energy estimates that landscaping can trim a house's heating cost by 30 percent, cut air conditioning by 50 to 75 percent and significantly decrease the pollution released by these appliances. From June 15 through August 1, *American Nurseryman* magazine featured a 4-part series on residential landscaping for energy efficiency in cool climates, temperate regions, hot arid climates, and hot humid zones. Each article covers a wide range of landscaping ideas and techniques for each season and a variety of landscape situations. The July 1 issue explains methods for controlling solar heat and cooling winds for each exposure of a home in our temperate climate. Effective species ranging from ground covers to canopy plants are suggested for a variety of situations.

THE USE OF SURFACE TREATMENTS FOR THE PREVENTION OF SOIL COMPACTION DURING SITE CONSTRUCTION.

Lichter, John M., and Lindsey, Patricia A. *Journal of Arboriculture* 20(4): 205-208. July, 1994.

Urban soils are commonly compacted during site construction, leading to alterations in soil structure that are detrimental to plant health. In a study of California residential developments, construction processes and their associated impacts were found to vary among developments. On mass-graded sites, characterized by grading and compaction of the entire construction site, bulk density analysis revealed that compaction is uniformly severe. On selectively graded sites, bulk densities of undisturbed (fenced) areas were significantly lower than disturbed areas. On these sites, several techniques can be used for the prevention of soil compaction, including the use of surface treatments. The effectiveness of plywood, mulch, and gravel as surface protective treatments was evaluated and while plywood did not reduce compaction, bulk densities under mulch and gravel treatments were significantly lower than the unprotected control. When used in combination with other techniques, some surface treatments are useful tools for reducing soil compaction during site construction.

PROHORT Seminar Registration

___ GREENHOUSE PEST MANAGEMENT \$15.00

TOTAL: \$ ___

Group Rates: five or more persons, less 20%. Group registrations must be accompanied by ONE check or purchase order at least one week in advance.

Portion of fees may cover refreshments and speaker expense.

Make checks payable to the University of Washington; receipts available at the door. Mail payment and registration to: Center for Urban Horticulture/ProHort, University of Washington, GF-15, Seattle, WA 98195. For information, call 685-8033.

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To request disability accommodation contact the Office of the ADA Coordinator, at least ten days in advance of an event: 543-6450 (voice) 543-6452 (TDD); 685-3885 (FAX) access@u.washington.edu (email)

PROHORT BOOKSHELF

by Valerie Easton, CUH Horticultural Librarian

Miller Library hours are Monday, 9 a.m. to 8 p.m.,
Tuesday–Friday, 9 a.m. to 5 p.m., except holidays.
Phone: (206) 685-8033.

Clewis, Beth. *The Gardener's Index: Where to Find Information about Gardens and Garden Plants*. New York: Neal-Schuman, 1993.

De Waal, Louise C., et al. *Ecology and the Management of Invasive Riverside Plants*. Chichester: John Wiley, 1994.

Hannebaum, Leroy G. *Landscape Operations: Management, Methods and Materials*. 2nd ed. Englewood Cliffs, NJ: Regents/Prentice Hall, 1993.

Hunter, Malcolm L. Jr. *Wildlife, Forests, and Forestry: Principles of Managing Forests for Biological Diversity*. Englewood Cliffs, NJ: Regents/Prentice Hall, 1990.

Toogood, Alan. *Plant Propagation Made Easy*. Portland: Timber Press, 1993.

The Center for Urban Horticulture is dedicated to teaching, research and public service in urban horticulture, urban forestry and urban ecology.

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