# PROHORT

Vol. 10, No. 2 Spring 1992

PROHORT seminars for professionals are planned and conducted cooperatively by Urban Horticulture, University of Washington and Cooperative Extension Service, Washington State University. Edmonds Community College and South Seattle Community College also assist cooperatively.

**Group Rates Policy Change**

Please note that the Group Rate Discounts as listed on the page 3 Registration Form have been changed. There is no discount available for groups of less than four persons; groups of five or more may request a 20% discount. Such group discount registrations must be accompanied by ONE check or purchase order at least one week in advance.

## PRE-REGISTRATION REQUIRED FOR ALL PROHORT SEMINARS

## TURF PEST DIAGNOSIS AND MANAGEMENT

Tuesday, April 21, 9 a.m. to Noon
Center for Urban Horticulture
$17

Instructors: Dr. Gwen Stahnke, Turfgrass Specialist, WSU–Puyallup; Dr. Ralph Byther, Plant Pathologist, WSU–Puyallup

**This Seminar qualifies for 3 hours WSDA Pesticide Recertification credit.**

### I. DISEASE PEST DIAGNOSIS

Learn to recognize turf disease problems. Dr. Ralph Byther reviews lifecycles and the symptomologies of disease pathogens.

### II. CULTURAL PROBLEMS & INSECT PEST DIAGNOSIS

Dr. Gwen Stahnke reviews turf cultural and environmental problems and their recognition; learn to distinguish these from pathogenic problems. A brief discussion of turf insect pests will be included.

### III. MANAGEMENT STRATEGIES

Only after recognition and correct diagnosis of cultural or environmental problems, or insect and disease pathogens can management strategies be initiated. Dr. Stahnke outlines appropriate integrated management schemes and cultural practices necessary for maintaining healthy turf.

## INSECT PESTS OF CONIFERS

Thursday, May 21, 9 a.m. to 3:30 p.m.
Center for Urban Horticulture
$34, includes box lunch

**This Seminar qualifies for 6 hours WSDA Pesticide Recertification credit.**

Class size is limited.

Instructors: Dr. Robert Gara, Professor of Forest Entomology, U. of Washington; Walt Bubelis, Instructor, Edmonds Community College

Registration information
See page 3

### I. INSECT PEST RECOGNITION

Learn to recognize conifer insect pests and their damage. Walt Bubelis and Bob Gara discuss life cycles, target plants, damage symptoms and principles of field recognition for pests of native and ornamental species. Slides and specimens will be used, and you may bring along your own samples for discussion.

### II. FIELD WORK IN PEST RECOGNITION

Refine your insect recognition skills as we move into the field for further study. Practice systematic field diagnosis techniques useful for any pest management work.

## FOCUS ON WETLAND PLANTS

Tuesday, July 7, 8:30 a.m. to 3 p.m.
Center for Urban Horticulture
$47, includes lunch

Instructors: Linda Kunze, Wetlands Ecologist, Washington Natural Heritage Program, Department of Natural Resources; Ron Van Bianchi, Owner, Pacific Wetlands Nursery; Catherine Hovanik, Executive Secretary, Washington State Noxious Weed Control Board; Kevin Fetherston, Wetlands Ecologist, L. C. Lee & Associates, Incorporated

### I. USING NATURAL SYSTEMS AS PLANT SELECTION MODELS

Linda Kunze discusses characteristics of native wetland systems as models for developing, designing, or managing constructed or enhanced systems.

Examples from a variety of Washington wetlands will be used.

## II. PLANT SELECTIONS

Learn about collection, propagation, planting, establishment, and maintenance concerns of plants for freshwater wetland systems. Ron Van Bianchi uses live specimens and slides to discuss over 30 key western Washington specimens.

## III. PLANT SELECTION CONCERNS

Catherine Hovanic reviews concerns, problems, and policies relevant to the use of invasive introduced species.

## IV. PLANT SELECTION IN RESTORATION DESIGN

Kevin Fetherston will discuss approaches to selecting plants for wetland restoration design. Topics will include: reference wetland ecosystems, wetland vegetation structural and functional characteristics, wetland plant life history characteristics, species hydrologic requirements, the use of biological benchmarks, and wetland vegetation development. These topics will be integrated through the presentation of a number of case studies.

# OTHER EDUCATIONAL RESOURCES

## RENOVATION DESIGN

Dates & Times: Three-part course—April 4, 9 a.m. to 3 p.m.; April 7, 6:30 to 9:30 p.m.; April 13, 6:30 to 9:30 p.m.
Instructor: Keith Geller
Center for Urban Horticulture; University area home
$40; pre-registration required, limited space available

This course, co-sponsored by the Association for Women in Landscaping and the Center for Urban Horticulture, will provide a hands-on learning experience in renovation design. Besides informative lectures, students will assess and prepare renovation designs for a home close to the Center. Evaluations of these designs will help you further develop practical renovation design skills.



To register, call the Center at 685–8033, and ask to register for the AWL/CUH Design Course. Make checks payable to: U. of Washington.

## PLANT PALETTE LECTURES

In-depth field lectures utilizing plant collections of Washington Park Arboreum.

### Plants of the Explorers

April 25, 9 70 11 a.m., WPA
$5; no pre-registration required

Clint Smith examines Arboretum collections, focusing on the many plant introductions and explorers that have helped shape our Northwest plant palette.

### Flowering Trees for City Gardens

May 16, 9 to 11 a.m., WPA
$5; no pre-registration required

Jan Pirzio-Biroli examines small flowering trees in the Arboretum. Discover and study attractive ornamental trees suitable for including in urban garden designs.

## PLANT ENTHUSIAST LECTURES

Lectures focus on plant materials of interest to garden designers.

### Groundcovers

April 8, 7:30 to 8:30 p.m., CUH
$2; no pre-registration required

Frances Roberson shares her experience with groundcover selection and culture for all types of situations. Live specimens available for inspection.

### Heirloom Plants

May 13, 7:30 to 8:30 p.m., CUH
$2; no pre-registration required

Garden Historian Kathy Mendelson discusses heirloom trees, shrubs, flowers (including roses), and vegetables from early Northwest gardens. Enrich your design palette.

PROHORT Editorial Staff:
Dave Stockdale, Coordinator, CUH
Dr. John A. Wott,
Associate Director, CUH
George Pinyuh, WSU County Extension Agent-Horticulture

### Choice Hostas

June 10, 7:30 to 8:30 p.m., CUH
$2; no pre-registration required

Hostas are elegant accents for the shade garden. Pat Barker and Joanne Hochberg review the versatility and variety of hostas through slides and with live specimens.

**Edmonds Community College Spring Courses:** Spring Plant ID; Plant Diseases; Greenhouse Studies; Landscape Studies; Annuals, Bulbs & Ferns; Weed ID & Management; Introductory Horticulture, Landscape Design II; Ferns & Fern Allies; Rhododendrons & Azaleas; Tissue Culture; Integrated Pest Management; Ornamental Grasses. Call 771–1679 for registration information.

**South Seattle Community College Spring Courses:** Garden Center Management; Spring Plant ID, Part One; Spring Plant ID—Part Two; Herbaceous Plant ID; Maintenance Operations; Field Applications; Turf Grass Culture; Small Business Management; Landscape Design III; Construction Project II; Insect Identification; Plant Diseases; Irrigation Systems I. For registration information, call 664–5336.

**Lake Washington Technical College Spring Courses:** Pruning & Landscape Renovations, Soils for Professionals, Spring Plant Identification, Color for Terrace & Deck, Professional Irrigation Refresher. Phone 828–5605 for more information.

# PROHORT BOOKSHELF

by Valerie Easton

New books at the Miller Library of interest to landscape professionals. Miller Library is open until 8 p.m. on Monday evenings; call 543–8616 for current hours.

Basta, Nicholas. **The Environmental Career Guide: Job Opportunities with the Earth in Mind.** New York: Wiley, 1991.

Bullock, Peter; Gregory, P. J.; British Society of Soil Science. **Soils in the Urban Environment**. Oxford: Blackwell Scientific Publications, 1991.

The Center for Urban Horticulture is committed to excellence in research, teaching and public service in urban horticulture.

Eliovson, Sima. **The Gardens of Roberto Burle Marx**. Portland, OR: Sagepress/Timber Press, 1991.

Ellis, Michael A. **Compendium of Raspberry and Blackberry Diseases and Insects**. St. Paul, MN: APS Press, 1991.

Holmgren, Patricia K.; Holmgren, Noel H.; Barnett, Lisa C. Index Herbariorum: **A Guide to the Location and Contents of the World's Public Herbaria**. Bronx, NY: New York Botanical Garden, 1990.

Shank, Dale. **Hortus Northwest: A Pacific Northwest Native Plant Directory and Journal**. Canby, OR: Hortus Northwest, 1991.

Turnbull, Cass. **The Complete Guide to Landscape Design, Renovation, and Maintenance: A Practical Handbook for the Home Landscape Gardener**. White Hall, VA: Betterway Publications, 1991.

Walker, Theodore D. **Residential Landscaping I: Planning, Design, Construction**. New York: Van Nostrand Reinhold, 1982.

Whitson, Tom D., ed. **Weeds of the West**. Jackson Hole, WY: Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services, and the University of Wyoming, 1991.

van Zuylen, Gabrielle: photos by Marina Schinz. **The Gardens of Russell Page**. New York: Stewart, Tabori and Chang, 1991.

## RESEARCH REPORT

### Barriers to Reduce Damage to Sidewalks by Tree Roots

Cities spend many millions of dollars each year to repair sidewalks lifted or broken by tree roots. Some recent studies by Research Professor Al Wagar of the University of Washington demonstrate that installing barriers can greatly reduce such damage.

Three kinds of barriers were tested in plantations of 9 year old cottonwoods (*Populus trichocarpa X deltoides* and *P. trichocarpa*), and paper birch (*Betula papryfera*) at the College or Forest Resources' Pack Forest. Biobarrier, a commercial product, relies on slow release of the herbicide triflurolin to stop cell division. Copper screen will constrict roots to the size of holes in the mesh—approximately 1/16th-inch in this case. Similarly, nylon fabric constricts roots to the 1/32-inch diameter hole size in the weave.

Trenches were dug beside the trees, roots removed, barriers installed against the cut stubs of roots, and trenches refilled. Controls were simply trenches refilled without adding any barrier. After three growing seasons, trenches were re-opened and roots that had come through the one-foot by two-foot treatment and control zones were removed to a distance of six inches beyond the barriers, measured, and weighed.

The average dry weight in grams (g) for each treatment was summarized as follows: *Populus trichocarpa X deltoides*—77.1g for the control, 4.2g for Biobarrier, 10.9g for the copper screen, 17.8g for the nylon fabric; *Populus trichocarpa*—34.1g for the control, 3.1g for the Biobarrier, 10.0g for copper screen, 1.5g for nylon fabric; *Betulus papryfera*—26.0g for the control, 0.0g for Biobarrier, 1.9g for copper screen, 4.7g for nylon fabric.

These data indicate significantly fewer roots came through all the barrier types than where no barriers were used. The herbicidal action of the triflurolin in the Biobarrier was sufficient for deterring root growth. Although roots growing through the copper screen or nylon fabric holes had considerable swelling on each side of the barriers, the strands of screen or nylon fabric were not enveloped by the roots and imbedded with a woody mass, as in an earlier study in which roots enveloped nylon window screen. Stretching was prevented by the toxicity of the copper and the toughness of the nylon fabric.

When a root is greatly constricted, the photosynthate for its energy needs must flow through so little tissue that the root seems unlikely ever to become large enough to cause severe damage to sidewalks. Although the majority of root damage to sidewalks seems to be by large single roots, lifting of concrete by aggregations of small roots is not uncommon. This presents the possibility that a large number of roots could cause problems, even if individual roots are kept small by constriction.

In some cases, barriers that constrict and stunt rather than totally stop roots may allow an increased soil volume to be exploited by the roots. Also, such constricted roots may somewhat improve anchorage and stability of the tree since such roots have high tensile strength (but not great shear strength). Thus, for stability, constricted roots are better than no roots, but certainly not as good as normally developed roots.

## PLANT PROFILE

by Timothy Hohn

### *Ceanothus* 'Blue Cushion'

I envy gardeners in warm, mediterranean climates with opportunities to grow the blue flowering members of the genus *Ceanothus*. Perhaps because of their general rarity, blue-flowered trees and shrubs are often highly prized. Species of *Ceanothus* comprise a large portion of this blue-flowered group. Alas, many of these garden sapphires are humbled by our very wet and occasionally frigid winters. The *Ceanothus* collection at the Arboretum has been severely curtailed by our decade-long spate of record-setting cold winters. However, there are some persistent die-hards worth mentioning.

The genus *Ceanothus* is restricted to North America, with species ranging into Mexico and three species found in Canada. Surprisingly, five species are found east of the Mississippi, including one in the forests of Manitoba. The deciduous Easterners are white-flowered and would suffer from horticultural obscurity if it were not for their early discovery and parental contribution to some popular and showy French hybrids. The vast majority of *Ceanothus*, as many would presume, are found in California—44 species, 22 varieties, and 11 naturally occurring hybrids. The much desired cobalt blue taxa make their home there. Most love heat, thrive on drought, and under different conditions, can be short-lived garden plants.

*Ceanothus* 'Blue Cushion' is one of our Northwest survivors, outlasting even *C. gloriosus* 'Point Reyes'—which is often considered reliable. Our single accession of this dense, mounding groundcover is vigorously spreading over a large vacant space in the rock garden once occupied by Point Reyes until the cold blast of December, 1990. Director Emeritus Brian Mulligan provided the Arboretum with this accession of *Ceanothus* 'Blue Cushion' which he originally obtained from the California nursery of Louis Edmonds. Mr. Edmonds, a recognized authority and hybridizer of *Ceanothus*, was probably the originator of this hybrid between *C. thyrsiflorus* var. *repens* and *C. dentatus*.

The parents of Blue Cushion ceanothus are both low growing, coastal plants. They are both characterized by stiff, shiny foliage and rich blue flowers. The lone Arboretum plant of Blue Cushion is 12–18" tall and several feet in diameter. It is covered in tiny, evergreen leaves no more than 1/2" long and 1/4" wide with a glossy sheen on top. The overall texture of the plant is quite different from the more common Point Reyes ceanothus with its larger and toothy, wedge-shaped leaves and dull coloring. Also, *Ceanothus* 'Blue Cushion' forms a denser groundcover with tiers of overlapping branches forming a rather heavy, living thatch.

In April, the deep green cushion of foliage is punctuated with 1–2" exclamation points of deepest blue as the axillary inflorescences begin to emerge. The flowers themselves are tiny, 5-petalled little jewels incorporating the richest tones of the parents. By comparison, those of Point Reyes ceanothus seem dull, dusty and gray. In full flower and new leaf, the overall affect is a tremendously cooling one inspired by the rich greens and blues.

*Ceanothus* 'Blue Cushion' is a good medium height groundcover for exposed banks and most any sunny position with well drained soil. These are dry summer adapted plants and will not require any supplementary irrigation—watering would only invite root rot. Consider using them to dress down the edges of shrub beds or as low growing components of rockeries. They are useful for dry, hillside gardens and at the front of mixed borders of sun-loving perennials, grasses, and shrubs. Position plants where they will receive some winter shade to reduce the chances of winter burn during occasional severe cold.

*Ceanothus* 'Blue Cushion' can be propagated by cuttings and a limited amount of starter material is available from Barbara Selemon, Propagator, Center for Urban Horticulture. To defray the costs of staff time, materials, and shipping, we are asking a fee of $25.00 per request and will ship material C.O.D.

**University of Washington, GF–15**
**College of Forest Resources**
**Center for Urban Horticulture**
**Seattle, WA 98195**

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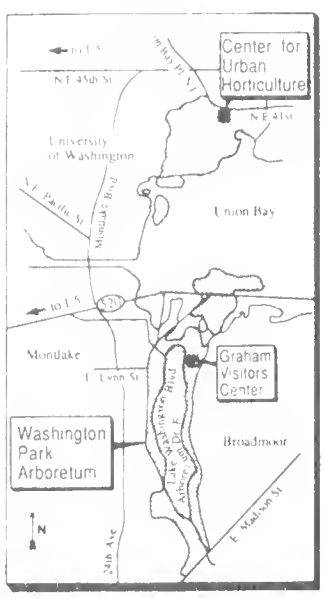


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