



# PROHORT

Vol. 10, No. 1

Winter 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.

## PRE-REGISTRATION REQUIRED FOR ALL PROHORT SEMINARS

### PROFESSIONAL PRUNING SERIES

Class Sizes Limited

#### I. PRUNING SMALL TREES

*Please specify section when registering.*

Section A: Tuesday, February 4, 8 to 11 a.m.

Graham Visitors Center, Washington Park Arboretum (WPA)

\$21

Section B: Tuesday, February 4, Noon to 3 p.m.

Graham Visitors Center, WPA

\$21

Instructors: Chip Kennaugh, Paul Wiltberger

A short lecture followed by field demonstrations will provide insight regarding pruning small landscape trees. Learn to assess pruning/training needs, types and timing of cuts.

#### II. PRUNING FRUIT TREES

*Please specify section when registering.*

Section C: Thursday, February 20, 8 to 11 a.m.

Center for Urban Horticulture (CUH) & a University area orchard

\$21

Section D: Thursday, February 20, Noon to 3 p.m.

CUH & a University area orchard

\$21

Instructor: Bess Bronstein

Proper pruning techniques and timing are necessary to maintain fruit trees in healthy, productive condition. Learn to correctly prune those assorted fruit trees often encountered on client's properties. Observe field demonstrations of proper pruning techniques.

#### III. JAPANESE STYLE PRUNING

Section E: Tuesday, March 12, 8 to 11 a.m.

CUH & a University area home  
\$21

Instructor: Doug Tanaka

Part art, part philosophy, and part science—study and then observe demonstrations of this distinctly different style of pruning. Observe steps necessary to restyle neglected plants, or correctly refine and maintain existing specimens.

#### CONIFER ID

Class size limited

Thursday, March 26, 9 a.m. to 4:30 p.m.

Graham Visitors Center, WPA  
\$35, includes lunch

Instructors: Dr. Clement Hamilton, Associate Professor, CUH; Dr. Ray Maleike, Extension Horticulturist, WSU-Puyallup.

#### I. Principles of Plant Recognition

Learn the basic descriptive terminology of plant parts and the biological basis for taxonomic plant classification in cultivated plants.

#### II. Conifer Recognition

Review specific characteristics and work on identification skills with fresh specimens and slides of landscape-appropriate conifers.

#### III. Field Practice

Review and practice identification skills utilizing Washington Park Arboretum collections. Work to identify over 30 taxa of landscape-appropriate conifers.

#### IV. Review

Review basic characteristics of the day's studied conifers in this lecture/slide overview.

#### V. Review Quiz

An optional short field quiz will help you monitor your progress in learning to identify Northwest conifers.

#### PLANT PALETTE LECTURES

##### THE TRUE FIRS

Saturday, January 18, 9 to 11 a.m.

Leave from Graham Visitors Center, WPA  
\$5, payable at the door

Robert Van Pelt of Washington State's Big Tree Program leads this in-depth field study of the Arboretum's diverse collection of *Abies* (true firs).

Registration information  
See page 3

## WINTER WONDERLAND

Saturday, February 15, 9 to 11 a.m.  
Leave from Graham Visitors Center, WPA  
\$5, payable at the door

Landscape designer Micheal Moshier directs this field examination of landscape plants with intriguing bark coloration and texture, unique branching patterns, and colorful winter fruits, flowers or foliage.

## OTHER EDUCATIONAL RESOURCES

Association for Women in Landscaping/CUH Progressive Design Series Presents:

### DESIGN PRINCIPLES

Three part class, January 13, 20, 27;  
6:30 to 9:30 each night  
Center for Urban Horticulture  
\$40, pre-registration required (payable to UW)

Instructors: Betsy Fitzgerald, Sandra Hasegawa, Kris Sargent, Mae Waldron

This short course will address basic design principles. In addition to lectures and examples, evaluations of participant projects will be included.

### JOHN BROOKES: DEVELOPMENT OF THE ENGLISH GARDEN

March 2, 7:30 to 9 p.m.  
Center for Urban Horticulture, NHS Hall  
\$10, **PRE-REGISTRATION REQUIRED**

John Brookes is an internationally known garden designer and lecturer from England. He has authored such classic books as *Gardens for Small Spaces*, *The Garden Book*, *The Country Garden*, and many more. He will share with us the history of development of the "English Garden," from early estates to small cottage gardens, including examples from his recently published book *John Brookes' Garden Design Book*.

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## PACIFIC NORTHWEST COMMUNITY TREES CONFERENCE

This two-day conference will be held February 28-29 at the World Forestry Center in Portland. Seminar sessions will focus on urban tree selection and management. For further information, contact Paul Ries, Oregon Department of Forestry, at (503) 373-7854, or Rick Zenn, World Forestry Center, at (503) 228-1367.

**EDMONDS COMMUNITY COLLEGE WINTER COURSES:** Conifers, Soils, Pruning, Pest Management, Sprinkler Design, Design I, Landscape Materials, Container Gardening, Grafting, Hedges, Winter Plant ID, Plant Propagation, Herbs. For registration information, call 771-1679.

**SOUTH SEATTLE COMMUNITY COLLEGE WINTER COURSES:** Call 764-5336 for registration information about these upcoming courses: Conifer ID, Landscape Design II, Soils & Plant Nutrition, Pruning, Plant Propagation, Drainage & Irrigation.

## PROHORT BOOKSHELF

by Valerie Easton

New books at the Miller Library of interest to landscape professionals. Library hours January through June 8, 1992, are 9 a.m. to 8 p.m. Mondays, 9 a.m. to 5 p.m. Tuesday through Thursday.

Booth, Norman K., and Hiss, James E. *Residential Landscape Architecture*. Englewood Cliffs, NJ: Prentice Hall, 1991.

California Department of Forestry and Fire Protection, Urban Forestry Program. *Forestry & Tree Education Catalogue*. Sacramento, CA: 1990.

*Conservatories for the 21st Century, Symposium Proceedings, October 15-17, 1989*. Lucy E. Jones, ed. New York: Brooklyn Botanic Garden, 1990.

Himelick, E. B. *Tree and Shrub Transplanting Manual*. 2nd revision. Urbana, IL: International Society of Arboriculture, 1991.

Master Gardeners International Corporation. *Directory of Master Gardener*

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

*Programs in the United States and Canada*. 1st Ed. Alexandria, VA: 1991.

Paul, Teresa. *New Flowers: Growing the New Garden Varieties*. New York: Harry N. Abrams, Inc., 1990.

Professional Grounds Management Society. *Grounds Maintenance Management Guidelines*. 4th ed. Cockeysville, MD: 1991.

## URBAN FORESTRY COUNCIL FORMED

The Washington Community and Urban Forestry Council (WACUFC) is dedicated to working to help improve and maintain our urban forests. Created in 1990 by the Washington State Department of Natural Resources, the Council consists of an executive advisory committee to the State Forester and a general membership.

Almost 60 persons from around the state attended the October, 1991, general membership meeting held at the Center for Urban Horticulture. At that meeting, members were invited to review the final draft of the Council's Strategic Plan and committees worked to develop and initiate long-range goals relative to urban forestry. Current goals include: Promote strong commitment to increase the number of communities with urban forestry programs; Develop programs to support, preserve, plant and maintain community and urban vegetation resulting in an increased number of trees in our communities; Develop long-term funding from multiple sources including both public and private sectors, locally and nationally; Build a clearinghouse of information and inventory the state's community and urban forestry needs and resources; Develop an educational program which stresses a consistent educational message for municipalities and the public, especially youth and technical experts.

## RESEARCH REVIEW

by Dave Stockdale

### Root Growth and Development

Two recently published research review articles by Dr. Edward Gilman of

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

the University of Florida should be recommended reading for anyone who wants to learn about or reinforce their understanding of tree roots. Research is reviewed on tree root form, spread, depth, periodicity, response to culture, response to management and response to planting—with many references related specifically to urban trees.

For instance, root form is dictated not only by plant genetics, but by soil texture, compaction, depth to the water table, fertility, moisture content and more. Root morphology on planted trees is also affected by nursery production practices, age at planting, planting method and post-planting cultural practices. Research indicates that pre- and post-planting cultural practices influence root morphology more than species differences.

The author thoroughly reviews the research describing early root development, including the formation and functions of tap, oblique, lateral, and fine roots. Discussion is also given to older tree root development, including deep, lateral, sinker, and fine roots.

Research findings are cited to demonstrate that root spread is usually well beyond the tree dripline. Studies have indicated that the ratio of root spread to branch spread on nursery-grown trees is highly species dependent. Using data on root-spread ranges for a variety of trees, many researchers have been able to reasonably predict root spread of certain tree species based on trunk diameter or branch crown radius.

Interesting data is available on the seasonal periodicity of root growth. The period of maximum root growth is influenced by species, soil moisture and nutrient content, stage of shoot development, soil temperature, root or top pruning, tree age and more. However, of all the environmental conditions, soil temperature and moisture appear to have the greatest influence on root growth.

Of importance to landscape managers and urban foresters are the effects of management practices on tree root development. For instance, grass is most competitive with tree roots if mowing is conducted infrequently since this results in deeper, denser grass root development. Numerous findings are reviewed.

Other cultural practices greatly influencing root development are irrigation and fertility programs. The addition of nitrogen will increase the root density only in the area where it is applied—so even application is required. However, most trees are unable to utilize more than 80 ppm nitrogen in the soil solution, so excess application is wasteful.

Other literature citations relate that root development following transplanting varies with species, physiological status, environmental conditions, time of year, type of root system and cultural practices. It is important to note that soil type and texture are not mentioned. Studies have indicated that soil amendments in the backfill were ineffective for enhancing root weight, plant

survival or shoot growth in a variety of soils. Also not shown to improve woody plant root growth in transplants were root ball slicing or teasing roots from the periphery of the root ball. However, where possibilities exist for girdling root development that may affect later development of the plant—such practices are still recommended.

For more details on the above-mentioned data and other relevant information, I would suggest reading the two review articles cited below (available in the Miller Library at CUH). Based on information from over two hundred sources, these articles represent an excellent starting place for understanding or review.

Gilman, Edward F. *Tree Root Growth and Development. I. Form, Spread, Depth and Periodicity.* J. Environ. Hort. 8(4):215-220. December, 1990.

Gilman, Edward F. *Tree Root Growth and Development. II. Response to Culture, Management and Planting.* J. Environ. Hort. 8(4):220-227. December, 1990.

## PLANT PROFILE

by Tim Hohn

### *Hamamelis vernalis* 'Purpurea'

I've liked witch hazels ever since my first encounter with *Hamamelis virginiana*, the eastern witch hazel, in a wooded state park outside of Detroit. Their rather small stature, distinctive foliage, and perhaps most of all, their unusual flowers were very captivating. Since moving to Seattle, however, I've developed a new respect for these undemanding and showy cool season performers. Although the closest wild growing witch hazels are back east in the Ozarks, locally grown plants often out-perform their wild brethren with prolonged winter blooming periods and pleasing scents.

There are four species of *Hamamelis*: *H. japonica*, *H. mollis*, *H. vernalis*, and *H. virginiana*. *Hamamelis japonica* contains two varieties, *arborea* and *flavopurpurascens*, with the usual amount of debate surrounding their legitimacy. Like so many other genera, these species are distributed exclusively in eastern North America and Eastern Asia, glacial refugees of a once more ubiquitous temperate flora. *H. mollis* and *H. japonica* can be found in the wooded uplands of China and Japan, respectively, and the others are

### PROHORT Seminar Registration

___ Pruning Small Trees .....	\$21.00
___ Pruning Fruit Trees .....	\$21.00
___ Japanese Style Pruning .....	\$21.00
___ Conifer ID .....	\$35.00
TOTAL : \$___	

**Group rates:** 2-5 persons, less 20%; 6 or more, less 25%. 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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inhabitats of the eastern deciduous forests of North America. The oriental plants hybridize in cultivation and have been the source of many outstanding garden selections under the name *Hamamelis x intermedia*, and I'm certain you'll recognize the cultivar names Diane, Jelena, and Arnold Promise. But, there is an uncommon selection of a less popular species that merits particular attention.

*Hamamelis vernalis* grows in thickets along the rich, forested streambanks of the lower midwest, particularly in the Ozark regions of Missouri, Oklahoma, and Arkansas. It is more shrubby in stature than the larger, more easterly distributed *H. virginiana*. Although the vernal witch hazel is often only 6-10 feet tall, it can be twice as wide with wild populations showing a wide range of diversity in growth form and other characters. Its natural suckering habit appears to be minimal in cultivated plants at the Arboretum.

Like its more common North American relative, the foliage of the vernal witch hazel turns a crisp, clear yellow before dropping in the fall. The flowers, like the plant, are the smallest in the genus with petals sometimes only 4-5 mm long. However, what it lacks in size it makes up for in quantity, cold hardiness, and

color. Flower petals can be seen unfurling in the most miserable of January and February weather. They appear in shades of light yellow, orange, and copper from flower buds that thickly stud the branches. This warm haze of color is punctuated by a pleasant yet indescribable aroma. *Hamamelis vernalis* is a popular plant in colder climes than ours, its flower petals curling up in a warm huddle on frigid days and rolling out unscathed under balmy conditions.

Of all the new hybrid selections of witch hazels, none has yet been developed with a flower color as striking as *H. vernalis* 'Purpurea.' Like the species, the flowers are small but plentiful and of the most unusual color, a sort of peruvian violet. This selection fills a unique niche in the available color spectrum, not only among witch hazels, but winter blooming plants in general. Its one of those colors that reignites color perceptions in the garden that are as dormant as some of the plants. As a bonus, *H. vernalis* 'Purpurea' produces some of the most outstanding fall color available in the garden. Yellows, oranges, scarlets, and plums appear on the same plant, sometimes on the same leaf!

The purple ozark (or purple vernal) witch hazel is small like the species, attaining a mature height of 10 feet and just as wide in a broad, vase shape. It is best planted in a well-drained, moisture retentive soil in part shade, similar to the conditions under which they are found in the wild. Many witch hazels, particularly those with blossoms in the yellow color range, should be sited in front of dark backgrounds for maximum effect. However, *H. vernalis* 'Purpurea,' as well as copper and maroon-colored hybrids, are most effective if they can be viewed with back lighting to magnify their intensity. A good combination of witch hazels for a long season of winter bloom (60 - 90 days) would include the hybrid cultivars Arnold Promise, Diane, Jelena, and Winter Beauty; *H. mollis* and, of course, *H. vernalis* 'Purpurea.' In a small setting, *H. x intermedia* 'Arnold Promise' together with *H. vernalis* 'Purpurea' would make a striking February color combination.

A limited number of scions of *Hamamelis vernalis* 'Purpurea' can be obtained by contacting Barbara Selemon, Propagator, Center for Urban Horticulture. Plants can also be purchased from Gossler Farms Nursery in Springfield, Oregon.

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

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