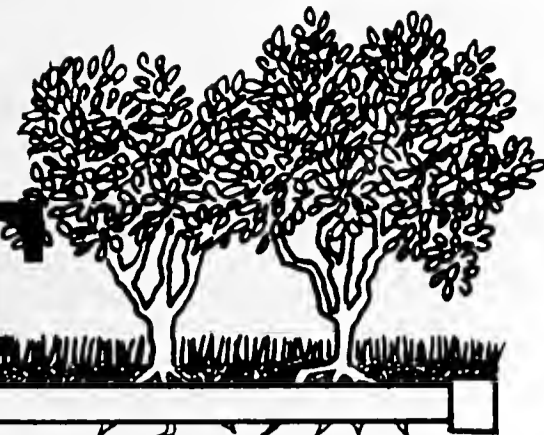


PRO HORT



**Center for Urban Horticulture
College of Forest Resources
University of Washington**

Vol. 8, No. 3

**Cooperative Extension
Washington State University**

Summer 1990

LANDSCAPE MAINTENANCE SEMINARS

**... for the landscape
professional**

Cooperating: Center for Urban Horticulture, University of Washington; Cooperative Extension Service, Washington State University; Edmonds Community College; South Seattle Community College.

TREE PRESERVATION ORDINANCES

Tuesday, July 24, 1990
8:30 a.m. to 4:30 p.m.; \$35.00
Fee includes box lunch
Center for Urban Horticulture

I. Examining a Successful Ordinance.

Ed Macie, Urban Forestry Specialist, USDA Forest Service, Atlanta, Georgia. An overview of the initiation, development, and enforcement of a successful urban tree preservation ordinance.

II. Developing an Ordinance. City of Tukwila, Washington. A review of the recent problems, successes, concerns resulting from developing a policy in the Northwest.

III. Legal Issues to Consider. Bob Tobin, Attorney, Seattle City Attorney's Office.

IV. Concurrent Groups. Presentations on issues of policy development, enforcement, tree preservation during construction, greenbelt maintenance, or legal specifics, including group discussion time.

V. Basic Tree Needs. Dr. Jim Clark, Associate Professor, Center for Urban Horticulture. To develop appropriate ordinances, an understanding of tree needs is vital; this review provides basic tree biology information.

Success with Broad-Leafed and Evergreen Trees and Shrubs in the Landscape

Tuesday, August 14, 1990
9:00 a.m. to Noon; \$13
Center for Urban Horticulture

**This seminar qualifies for three hours
of WSDA pesticide license recertification credit.**

I. Selection and Care of Broad-Leafed and Evergreen Trees and Shrubs.

Dr. Ray Maleike, Extension Horticulturist, WSU-Puyallup. A review of appropriate plant selections for the Pacific Northwest and their cultural requirements.

II. Managing Insect Pests of Broad- Leafed and Evergreen Plants in the Landscape.

Dr. Art Antonelli, Extension Entomologist, WSU-Puyallup. A presentation of management strategies for key insect pest problems of common broad-leafed and evergreen landscape trees and shrubs.

III. Recognition and Management of Diseases in Broad-Leafed and Ever- green Trees and Shrubs.

Dr. Ralph Byther, Extension Pathologist, WSU-Puyallup. A discussion of the limited disease problems of these plants, including recognition and control or prevention.

Plant Selection Based on Ecological Considerations

Tuesday, September 25, 1990
9:00 a.m.—Noon; \$13.00
Center for Urban Horticulture.

I. Principles of Ecological Plant Selection. Dr. Clem Hamilton, Assistant Professor, Center for Urban Horticulture. A review of the ecological factors to consider when selecting site-appropriate plant materials.

II. Appropriate Selections for the Pacific Northwest. Tim Hohn, Curator of Plant Collections, Center for Urban Horticulture. An overview of landscape plants which are suited to our particular regional conditions.

III. Ecologically Based Design Considerations. Dr. Iain Robertson, Assistant Professor, Department of Landscape Architecture, University of Washington. Learn how to evaluate the environmental stresses of a site in order to select plant materials and design planting arrangements that will work to minimize maintenance needs.

PROHORT, Its Eighth Year

It's hard to believe that we are already midway through our eighth season of ProHort Seminars. The Seminars and Newsletters began as cooperative planning efforts between horticultural educators at Washington State University, Edmonds and South Seattle Community Colleges, and the University of Washington. *ProHort* is dedicated to providing the latest information to persons employed in the professional landscape field.

Dave Stockdale has revitalized an advisory committee that has already met to discuss ideas for future programs. Pat Elder, Seattle Department of Parks and Recreation; Susan Hanley, Evergreen Services; Ciscoe Morris, Seattle University; Laurie Peterson and Stacey Good, Bellevue Parks and Recreation Department; Steve Magley, City People's Garden Store; Randy Droppert, Everett Landscaping; and Steve Davis, Parkwood Green, have volunteered planning time. Mike Brokaw, North Seattle Community College; and Phil Coker, consultant, have also provided feedback. If you would like to volunteer some time (not a lot!), please call Dave at 685-8033. Regardless, we would like to have your ideas.

Registration information
See page 3

Homeoclimatic Plants for Pacific Northwest Landscapes, Part I.

By Clement W. Hamilton, Ph.D.

What plants are most appropriate for landscapes in the Pacific Northwest west of the Cascade Mountains? The best way to answer this question would be to consult the results of rigorous, well-documented trials that have tested each available plant taxon in different urbanized and local climate conditions. Unfortunately, such tests are largely the figment of a wishful imagination, and we must rely on practical experience and even guesswork to help make optimal selections.

One way to improve that guesswork is to approach the question from an ecological perspective. Usually we seek plants that perform dependably and that require very little artificial improvement of growing conditions once established. Therefore, we are looking for plants that can survive our relatively arid summers without threatening to suck the last drops out of the reservoirs by August.

Four regions of the world feature climates that are similar to ours—rainy, cool winters, and arid, relatively cool summers—at the cool end of what is usually called a Mediterranean climate. Those four regions are the Mediterranean itself, southeastern Australia, and much of Tasmania, southcentral Chile, and the very tip of South Africa. In the absence of empirical, quantitative data on plant performance, we can turn to taxa from these areas for plants that are “accustomed” to the sort of stresses our climate provides. In part one of this report we shall review plants originating from the Mediterranean Region. Part two, in the next issue of *ProHort*, will review taxa from the other three regions.

The Mediterranean

Of the five cool winter-rain regions, the Mediterranean is the greatest source of widely available landscape plants, as would be expected from its long history of human settlement and its natural biotic diversity. Several landscape standards from the area are: *Arbutus unedo* (marginally cold-hardy here), *Cedrus atlantica*, *Cistus* species, *Erica arborea*, and *Viburnum tinus*. Many other dependable performers range from Europe down into the Mediterranean, such as *Acer campestre*, *Hedera helix*, *Ilex aquifolium*, *Pyracantha coccinea*, and *Taxus baccata*.

Most interesting to me are the well adapted plants that deserve wider use in landscapes. Of the conifers, *Pinus pinea*, the Italian Stone Pine, makes a striking specimen tree with a roughly spherical crown flattened at the top. Of the broad-leaved evergreens, *Quercus ilex*, the Holm Oak, is a proven performer; *Quercus suber*, the Cork Oak, can have difficulty in harsh winters, such as 1988–89, but often grows to a grand, distinctive old age. *Laurus nobilis*, the Bay Laurel of cooking fame, is also marginally hardy in the Puget Sound, but has succeeded well in partly shaded locations. The evergreen shrub species *Arbutus andrachne*, *Phillyrea angustifolia*, and *P. latifolia* also deserve more attention; perhaps greater demand would inspire wider availability, or vice-versa.

Among Mediterranean deciduous trees and shrubs, *Cercis siliquastrum*, Judas Tree, is a very drought-tolerant redbud that is preferable to its more common congener *C. canadensis*. *Cytisus battandieri*, the Atlas Broom, is a shrub currently gaining popularity for its showy racemes of yellow flowers and broad (for a broom!) leaflets. Two striking small trees occasionally used as small-scale specimens are *Acer monspesulanum* and *Sorbus torminalis*; rarity in the trade is their only drawback.

PROHORT Bookshelf

By Valerie Easton, Horticultural Librarian.

A listing of new resources available at the Elisabeth C. Miller Library. Library hours are 9:00 a.m. to 5:00 p.m., Monday through Friday. For further information, please call librarians Valerie Easton or Laura Lipton, at 685–8033.

Andersen Horticultural Library. *Andersen Horticultural Library's Source List of Plants and Seeds: A Completely Revised List of 1988–89 Catalogues*. Chanhassen, MN: Andersen Horticultural Library, University of Minnesota Libraries, Minnesota Landscape Arboretum, 1989.

Funk, Sue Ann. *Urban Forestry Notebook, 1990*. Center for Urban Horticulture, Puget Sound Power and Light Company, and Washington State Department of Natural Resources.

Gerhold, Henry D., Wandell, Wilet N., Lacasse, Norman, L., Schein, Richard D., editors. *Street Tree Fact Sheets*. University Park, PA: The Pennsylvania State University, 1989.

Grant, John A. and Grant, Carol L. *Trees and Shrubs for Pacific Northwest Gardens*. 2nd ed. Timber Books, 1990.

Hartmann, Hudson T., Kester, Dale E., Davies, Fred T., Jr. *Plant Propagation: Principles and Practices*. 5th ed. Englewood Cliffs, NJ: Prentice-Hall, 1989.

Heriteau, Jacqueline and Cathey, Dr. H. Marc. *The National Arboretum Book of Outstanding Garden Plants*. New York: Simon and Schuster, Stonesong Press, 1990.

Jacobson, Arthur Lee. *Trees of Seattle*. Seattle: Sasquatch, 1990.

Landis, Thomas D. *Seedling Nutrition: Container Tree Nursery Manual, v.4; Agriculture Handbook no. 674*. Washington, DC: U.S. Department of Agriculture, Forest Service, 1989.

Tattar, Terry A. *Diseases of Shade Trees*. Revised ed. New York: Academic Press, 1989.

Thompson, Peter. *Creative Propagation: A Grower's Guide*. Portland: Timber Press, 1989.

Torres, Kenneth C. *Tissue Culture Techniques for Horticultural Crops*. New York: Van Nostrand Reinhold, 1989.

Whitcomb, Carl E. *Plant Production in Containers*. Revised ed. Stillwater, OK: Lacebark Publications, 1988.

Other Educational Resources

Edmonds Community College Horticulture Courses, Summer 1990. Sprinkler Repair and Installation, Deciduous Plant Identification. For more information, call 771–1679.

South Seattle Community College: Plant Materials for the Pacific Northwest, Recertification Review for Pesticide Testing. Call 764–5336 for information.

PRO HORT Editorial Staff:
David L. Stockdale, Coordinator
George J. Pinyuh, County Extension Agent, Horticulture
John A. Wott, Associate Director, CUH

Pruning and Planting Practices

By George Pinyuh, WSU Extension Agent

There are several horticultural myths that die hard. One concerns the frequent recommendation that when trees or shrubs are planted barerooted, they must be pruned hard to balance the top with the reduced root system.

Standard practice for centuries has been to remove twenty to thirty percent or more of the branches of woody plants to help balance out the top with the remaining root system. Because such a large percentage of the root system is usually left behind when a tree or shrub is moved, it seemed logical that a substantial amount of the potential leaf surface should also be removed to take pressure off the reduced root system to help it re-establish more easily.

Since the mid-1970's, a considerable amount of scientific research at a number of land grant universities has consistently shown the opposite to be true. Although the research has largely been aimed at fruit and shade trees, the results are just as likely to be applicable to shrubs. The gist of all this scientific effort is that pruning to compensate for root loss at planting does not affect a plant's chances for re-establishment and survival, or even for better growth.

What has been found is that the more leaf surface a plant has, the more food it can manufacture for itself, resulting in more en-

ergy being directed to the regeneration of much needed new roots. Also, the terminal buds, which are often removed in the transplant-pruning process, seem to have a direct effect on the growth of new root tissue. Generally, the more terminal buds that are left on a tree or shrub, the quicker and more vigorously new root growth proceeds.

Furthermore, it has been reported that trees which were not pruned at planting had greater height and more stem diameter as well as a significantly greater proportion of roots than the pruned specimens after 1-2 years.

The current recommendation on pruning and training recently transplanted woody plants, including fruit trees, is to wait at least one year after transplanting to carry out any extensive renovation. All one needs to do at transplant time is remove any broken, crossing or obviously weak branches at their points of origin. Do not remove terminal buds by unnecessary pruning.

Most properly grown fruit, shade and flowering trees have usually been trained to include well branched tops.

Even if you get a tree that needs major work to get it into shape, it's best to allow the plant to grow for at least a year before working it over. In addition, heavy pruning at planting is likely to significantly delay fruit production on most fruit tree species.

All this presupposes that the newly transplanted trees will be adequately watered, at least during the first critical growing season. If for some reason sufficient water is not going to be available during the re-establishment period, it might be appropriate to thin out (not head back) severely enough to reduce the amount of potential leaf area, perhaps by about 25%. Presumably less water will be given off by fewer leaves (transpiration), so less water will be needed.

Another myth is that backfill soils must be amended with some sort of organic matter or coarse mineral aggregate when being returned to the hole around the plant's roots. Several studies have shown that the practice of amending soils is of no benefit to the plants.

Trees seem reluctant to get their roots out into the surrounding soil if the backfill is amended. Roots tend to be restricted to the planting hole if amendments are added and often do not do as well under drought stress conditions as those whose roots have penetrated into the surrounding area. The only time organic matter should be added is if an entire area's soil can be amended. When entire bed sections, or an entire landscape or orchard area can be altered with the addition of some organic matter, results are likely to be more positive.

It is preferable to loosen or break up the backfill which will be returned to a hole at least twice the diameter of the spread out root system. However, a tree or shrub is not likely to survive in a hole dug in a compacted or otherwise impermeable soil even if it is loosened or amended. Water drainage must be adequate or the roots will rot despite what is done to the backfill soil.

In areas where water drains out of a hole slowly, say less than one-half inch per hour, it may be preferable to plant on top of the ground rather than in a hole. Dig a shallow depression in the native soil, and surround the roots of your plant with a more amenable soil brought in from another location. Then before installing the tree or shrub, mix an inch or two of the good soil with the native material in the shallow depression to create a transitional layer between the two radically different soils.

Landscape Maintenance Seminar Registration

- Tree Preservation Ordinances \$35.00
 - Success with Broad-Leafed & Evergreen Trees & Shrubs in the Landscape \$13.00
 - Plant Selection Based on Ecological Consideration \$13.00
- 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 expenses.

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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Day Phone Evening Phone

Parking

Prepaid parking is available in the Center for Urban Horticulture lots for those attending Pro Hort seminars. Please use the parking lots.

Plant Palette

By Tim Hohn, Curator of Plant Collections.

Trachycarpus fortunei. The beauty of palms in tropical and subtropical landscapes is undeniable. Perhaps no other plants better exemplify the look of a "tropical paradise" than palm trees. This may be why many people are astonished when they encounter the occasional palm in the Pacific Northwest landscape. *Trachycarpus fortunei*, the Chinese windmill or Chusan palm, is a palm that can be planted in this region. Its survival in the Puget Sound basin, Willamette Valley, and other mild regions of the Pacific Northwest is not a fluke; this is a hardy species.

There are six species of *Trachycarpus* currently recorded from the Himalayas of northern India through the northern portion of Southeast Asia and into southern China. The most commonly grown is *T. fortunei*, thought to be the hardiest of all cultivated palms. There are beautiful specimens of this plant at the Graham Visitors Center, Washington Park Arboretum, and the Carl S. English Gardens in Ballard. Specimens of the Chinese windmill palm can even be found growing at 50° latitude in the British Isles.

Trachycarpus fortunei can grow as tall as 30 feet in the Northwest. The trunks are often very fibrous and dotted with the old, persistent leaf bases. The fronds are palmate or fan shaped, relatively flat, and frequently divided by about half their width into tapered segments. The leaf stems, or petioles, are so slightly serrated as to appear smooth. To some, this palm looks like a smaller version of the Washington fan palm of California.

The Chinese windmill palm is most successful in Sunset Zone 5 and the warmer areas of Zone 4. They benefit from southern or western exposures which provide some protection from northerly cold fronts that occasionally plague the Northwest. This also ensures that plants will receive maximum exposure in the summer for more rapid growth and optimal production and storage of carbohydrates, all of which aid in the ability of plants to withstand cold. Hardiness of seedlings is often questionable and it is advisable to acquire plants in 5-15 gallon containers, with some evidence of trunk development. Palms can be variable in growth rate, but will benefit from the use of fertilizers. Six month formulations of micro-encapsulated fertilizers applied in early May will satisfy the needs of these plants for the remainder of the warm growing season.

Trachycarpus fortunei seems tolerant of a wide range of soil types but does best in well drained, loamy soil. It is a drought-tolerant plant, once established, although its growth rate is probably enhanced by summer irrigation.

Don't let the fear of creating an incongruous landscape inhibit your use of *Trachycarpus*. However, realize that palms work better with other bold or tropical-looking companions, or when used as specimens; evergreen species make the most effective companions. Palms are also particularly striking next to water, such as ponds or swimming pools. Unless you are deliberately trying to create a tropical effect, consider palms as simply another bold, texturally interesting landscape plant with special contextual considerations. *Trachycarpus fortunei* brings a tropical flavor to the feast of landscape plants available in the Pacific Northwest.

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