



**Center for Urban Horticulture
University of Washington**

Vol. 8, No. 2

**Cooperative Extension
Washington State University**

Spring, 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.

Pruning: Standards and Practice

Tuesday, April 10, 1990
8:30am to 12:30pm; \$25
Center for Urban Horticulture

Pruning Standards: John C. Britton, chairman of the International Society of Arboriculture Pruning Standards Committee, reviews the development and applicability of standards for arborists, architects and planners.

Topping and the Alternatives:

A panel of arboriculture professionals presents several perspectives on the topping of trees for view, hazard and right-of-way clearance.

Root Pruning: Denice Froehlich, President-Elect of the Western Chapter of The International Society of Arboriculture, illustrates situations in which root pruning is advisable or necessary, and discusses techniques and management practices important to the success of root pruning operations.

ProHort editorial staff
Dr. John A. Wott
George J. Pinyuh
Eric Nelson

Hedges and Screens

Monday, May 21, 1990
6:00 pm to 9:00 pm; \$13
Center for Urban Horticulture

This seminar will focus on the screens, hedges, and barrier plantings which are present in nearly every landscape. Learn the *why*, the *how*, and the *what* in this informative evening program of special interest to gardeners and designers working in the small spaces of the urban landscape.

Overview

Walt Bubelis, of the Horticulture Department at Edmonds Community College, reviews design and functional considerations for hedging and screening plants.

Choosing the Right Plant

Tim Hohn, curator of plant collections at the Washington Park Arboretum, features some unusual choices for hedges and screens. Dan Hinkley, Heronswood Nursery, focuses on native plants for this use.

IPM for Turf Grass

Thursday, June 7, 1990
9 am to Noon; \$13
Center for Urban Horticulture

Dr. Gwen Stahnke, turf grass specialist at the WSU Cooperative Extension Research Station at Puyallup, presents this useful program for turf management and lawn care professionals.

Dr. Stahnke brings the latest information on the management of turf grass with minimum chemical impact on the soil, the water, and the people who use and work in our parks and lawns. Learn how to handle insect, disease, thatch, fertility, and irrigation problems through an Integrated Pest Management approach.

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

Other Educational Resources

South Seattle Community College

Horticulture Courses, Spring, 1990.
Weekdays: Small Business Mgt. in Horticulture, Garden Center Mgt., Spring Plant ID, Landscape Design/Construction, Soils and Plant Nutrition, Maintenance Operation and Techniques, turf grass culture. Evening classes: Weed ID and Mgt. 764-5336.

Edmonds Community College

Horticulture Courses, Spring, 1990.
Weekdays: Spring Plant ID, Construction Design, Pruning, Adv. Propagation, Landscape Design, Greenhouse, Turf, Diseases. Evenings: Intro. to Horticulture, Spring Plant ID, Annuals/Bulbs/Perennials, Creative Flower Arranging, Container Gardening, Bidding and Estimating. 771-1608.

Lake Washington Voc-Tech

Horticulture Short Courses, Spring, 1990. Variable Schedules: Large Tree Pruning, Florists' Flowers and Greens, Gardening for Newcomers, Composting, Irrigation System Maintenance for Professionals, Rhododendrons, Iris, Florist Shop Safety, Introduction to Pruning. 828-5627.

Coordinator Selected

Mr. David Stockdale will assume the duties of Continuing Education Coordinator for the Center for Urban Horticulture on March first. David holds a BS in horticulture from Purdue University, a MS in plant science from the University of Houston and has experience in extension, retail nursery, plant production, and horticulture therapy. We welcome David and extend our thanks to Eric Nelson for serving as coordinator during the selection process.

Registration information
See Page 3

Mulch Effectiveness

Van M. Bobbitt
WSU Cooperative Extension

Mulches are frequently used to reduce weed growth and improve growing conditions for landscape plants. But which mulches are most effective, what is the optimal depth of a mulch, and how do mulches affect soil chemistry? Researchers at Texas A&M University provided some answers to these questions when they studied the effect of different mulching practices on *Ligustrum japonicum*.

The mulches tested included screened pine bark (0.5-0.75 inches), hardwood and cypress (0.5-3.0 inches), decorative pine bark nuggets (3.0-4.0 inches) and a woven polypropylene weed barrier fabric. The organic mulches were applied at depths of 2, 4, and 6 inches. In addition, combinations of organic mulches with the weed barrier fabric were tested.

Of the organic mulches, the coarse pine bark nuggets provided the best weed control and the fine-textured screened pine bark the worst. The weed barrier fabric by itself also gave very good weed control. But the best weed control was obtained by placing 6" of pine bark nuggets over the fabric.

Deep mulches could be detrimental to plant growth, though. In this experiment, the new growth of *Ligustrum japonicum* decreased as the depth of mulch increased. Thicker mulches may foster excessive soil moisture and poor aeration.

Organic mulches also influenced soil chemistry. All made the soils more acidic and decreased soil nitrogen. A higher soil nitrogen content was maintained when organic mulches were applied on top of a weed barrier fabric. Apparently the fabric kept the organic materials from direct contact with the soil, thus preventing nitrogen tie-up.

In summary, (1) coarser organic mulches provided better results than fine-textured ones; (2) mulches over 4" deep tended to inhibit plant growth; and (3) shallower layers of organic mulch placed over a weed barrier fabric were the most effective for controlling weeds without tying up nitrogen or reducing plant growth.

Reference

Billeaud, L.A., and J.M. Zajicek. 1989. Influence of mulches on weed control, soil pH, soil nitrogen content, and growth of *Ligustrum japonicum*. *Journal of Environmental Horticulture*. 7:155-157.

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The Dove Tree

Davidia involucrata var. *vilmoriniana*

Timothy Hohn
Center for Urban Horticulture

Praise of a particular plant said to have unusual ornamental merit must always be taken with a grain of salt. In light of this, the object of this column—generally filled with highly subjective praise for its subjects—is to spur the reader on to personal investigation of the plants. This often produces the most lasting knowledge. Certainly, an appreciation of this motivated early plant explorers like E.H. Wilson.

"*Davidia* is a tree almost deserving a special mission to western China with a view to its introduction to European gardens." Upon reading this statement by the Keeper of the Kew Herbarium, Wilson marvelled and, with the backing of Messrs. Veitch, embarked upon just such a mission. A full account of this ironic, bizarre and tragic quest can be found in his book *Aristocrats of the Garden*. Recounting his feelings, Wilson wrote, "On beholding this extraordinary tree for the first time I no longer marvelled at the Keeper's strong language. And now with wider knowledge of floral treasures of the Northern Hemisphere I am convinced that *Davidia involucrata* is the most interesting and most beautiful of all trees which grow in the north temperate regions." Well now, with this ringing endorsement I suppose I should stop and we can all pack our bags for China. Fortunately, I can save you a great deal of time and money for there is a most handsome specimen of the dove tree to be found in the Washington Park Arboretum—in fact, there are several trees.

Davidia is a deciduous tree of moderate height, 40-60 feet, in the wild. At a slight distance, in leaf, it might look superficially like a *Tilia* (linden) or an *Idesia*. However, it has an open, pyramidal branching habit not unlike certain wild pears. It is a genus of a single species (monotypic) and is thought to derive from the same ancestral stock as the Cornaceae, Nyssaceae and Araliaceae. Taxonomists still disagree about the dove tree's current family affiliation and some place it in its own family, the Davidiaceae. At the Center for Urban Horticulture we follow An Integrated System of Classification of Flowering Plants by Arthur Cronquist. Dr. Cronquist places the genus *Davidia* in the Nyssaceae, along with the 5-6 species of *Nyssa* (sour gum) and another monotypic Chinese genus, *Camptotheca*. For genera which are difficult to assign, the characters used to determine family affiliation become ever-more detailed. For Dr. Cronquist, recent serological data and seed oil relationships support his classification.

The dove tree is named after the French missionary and student of Chinese plants, Abbé Armand David, who first discovered the tree in western Szechwan Province, China in 1869. The specific name, *involu-*

crata, refers to the remarkable set of bracts surrounding the inflorescence. The flowers themselves are very small and crowded onto a round head approximately 3/4" in diameter at the end of a drooping stalk about 3" long. From *Aristocrats of the Garden*, "The distinctive beauty of the *Davidia* is in the two snow-white connate bracts which subtend the flower proper. These are always unequal in size - the larger usually six inches long by three inches broad, and the smaller three and one half inches by two and one half inches; they range up to eight inches by four inches and five inches by three inches. At first greenish, they become pure white as the flowers mature and change to brown with age. The flowers and their attendant bracts are pendulous on fairly long stalks, and when stirred by the slightest breeze they resemble huge butterflies or small doves hovering amongst the trees." Some would say that, from a distance, the entire tree appears to be draped with white handkerchiefs. The largest of the Arboretum trees, in the Legume collection next to Arboretum Drive, flowers in May and must be seen to be fully appreciated.

Attending the dove tree's other features, the simple leaves are alternate, slender-stalked, prominently veined and heart-shaped to 6" long. The leaves of the species are felted with a thick, grey down on the undersides while the variety is distinguished by glaucous undersides, occasionally with a slight pubescence along the veins. The branches on our older tree are becoming wide spreading with dark grey bark having corky lenticels and oblong flakes. The fruit is a large ovoid 1.5" drupe that ripens in late fall. The outer part of the fruit, the mesocarp, is thin and gritty. The endocarp is ridged and extremely hard.

Davidia involucrata var. *vilmoriniana* makes a beautiful specimen tree and is small enough for urban settings. It performs best in a deep, moisture-retentive soil in full sun. It would be spectacular against a background of dark-foliaged evergreens. The Arboretum trees pose no cultural problems whatever. The larger of the Arboretum trees is in a rather dry location and rarely receives supplemental irrigation. By summer's end, it can appear somewhat wilted but in this regard it is quite tolerant and blooms prolifically. Like some of the spectacular Asian magnolias, do not expect the dove tree to bloom from seed until it is 10-12 years old. It is speculated that scions from blooming trees grafted on seedlings may flower at a younger age.

To grow *Davidia* from seed, remove the pulp, place the seed in damp sand, perlite, or peat moss in a plastic bag and store for five months at 60°F. Seed radicles should emerge by this time. Place the bag in 40°F storage for three more months and then sow. The seeds should sprout in a few weeks.

Seed is available on a limited basis until April 30 from Barbara Selemmon at CUH. Call 543-8616 during regular business hours to arrange pick-up.

Expanded Miller Library Serves Horticulturists

Valerie Easton
Horticultural Librarian

The Elisabeth C. Miller Library at the Center for Urban Horticulture is a privately-financed facility with a mission to serve faculty, students, professional horticulturists and the gardening public. Begun in 1985 with a collection of books and journals given to the Arboretum over many years, the library has grown to over 5500 volumes and 250 journal subscriptions, with additional collections of old and rare books, clippings, brochures, and garden catalogs. Early in 1990, an expansion was completed, providing more than twice as much shelf space. Many nursery people, arboriculturists, landscape maintenance workers, landscape designers, and horticulturists are using the library to research projects, to broaden their professional knowledge and to seek inspiration.

Periodicals

To find the most current information on a particular subject, journals and newsletters are the best place to begin. The Miller Library carries hundreds of titles, ranging from general interest publications like *Hortus* and *Garden Design*, to publications on specific plants such as *American Rhododendron Society Journal* or *Lilacs*, to scientific journals like *Plant Physiology* and *Hortscience*. We are the only library that collects the newsletters of local plant societies, such as *The Puget Sound Bonsai Association Quarterly* or *Rose Petals*, which can be the source of good information suited to the Northwest. Two other useful newsletters are *Avant Gardener* and *HortIdeas*, which report on current research,

excerpt important reports, discuss trends, and contain book reviews and information on ordering free and low-cost publications.

A good point of access to scientific journals is *Horticultural Abstracts*, an international abstracting service that indexes a large number of journals monthly by specific subject or plant name. If you are interested in what has been written on *Cornus florida* (6 entries in 1988) or on fungicides (over 100 entries), you can easily find a paragraph describing each article. To find what has been written on a given subject in one particular journal, it would be most useful to look at that journal's year-end index.

Two publications valuable to anyone trying to locate a particular plant are *Hortus Northwest: A Pacific Northwest Native Plant Directory* and *PlantSource*. The first is a new directory published in Oregon that lists commercial sources of native plants in a broadly defined Pacific Northwest area. The second, published in Bellevue and issued monthly, is an extensive listing of wholesale nursery stock, sizes and prices, in Idaho, northern California, Oregon, Washington, and British Columbia.

Books

The library collects books mainly in the subject areas of botany, horticulture and urban forestry, with information in supporting sciences such as climatology and soil science. Many of the books written for the gardening public can be useful, such as books on specific types of plants (magnolia, ornamental cherries, clematis, etc.) or on types of gardening (rock gardening, xeriscaping, bonsai). Some of the design books are especially beautiful and inspirational, such as *The Garden Design Book* featuring the work of current garden designers worldwide, *The New American Garden*, and

Color in Your Garden. In a similar category are books on gardens of specific times, types or places, such as Chinese gardens, English cottage gardens, or Italian renaissance gardens.

Different in tone and subject are the books written specifically for the horticultural professional. New titles include: *Interior Plantscapes*; *Maintenance Techniques for Interior Plants*; *Guide to Interior Landscape Specifications*; *Urban Forestry* by Robert W. Miller; *Private Trees and Public Interest*; and the local guide, *Urban Forestry Notebook*, by Sue Ann Funk.

The books most frequently consulted are the reference books, which are usually too expensive for the home library. Sets such as *The New York Botanical Garden Illustrated Encyclopedia of Horticulture*, *The Royal Horticultural Society Dictionary of Gardening*, *Bean's Trees and Shrubs Hardy in the British Isles*, and *Vascular Plants of the Pacific Northwest* by Hitchcock et al., are excellent sources of information for novices and experts alike. You'll find *Hortus Third*, *Hillier's Manual of Trees and Shrubs*, and *Wyman's Gardening Encyclopedia* cited frequently in the literature. Single volume references such as Mabblerly's *The Plant Book*, Coombes' *Dictionary of Plant Names*, and Rehder's *Manual of Cultivated Trees and Shrubs*, and *Flowering Plants and Ferns* by Willis, prove useful whether you are researching a plant that is new to you or an old favorite. Also, information that changes frequently is kept in the reference section, such as the Thompson books on pesticides, and the *Pacific Northwest Insect Control Handbook* and its companion volume the *Pacific Northwest Disease Control Handbook*.

The library is for reference use only (no check-out) with a copy machine and telephone reference service available. Please come in and use the collection. We are interested in serving the horticultural professional, so please let us know which materials are useful and what is needed in the collection. Next time you need to plan a garden for a difficult site, identify the best control for an insect problem, or select the perfect street tree, consult the expanded Miller Library collection for your answers.

Landscape Maintenance Seminar Registration

_____ Pruning Standards	\$25.00
_____ Hedges and Screens	\$13.00
_____ IPM for Turf Grass	\$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.

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 545-8033.

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Library Hours:

Monday 9 am - 8 pm
(evening hours through June 4)
Tuesday - Friday 9 a.m. - 5 p.m.

Librarians:

Valerie Easton
Laura Lipton

Telephone : 543-8616

Unusual Fruit Trees for Landscapes

George Pinyuh
WSU Cooperative Extension

There is increasing cultivation of unusual fruit trees in western Washington. Interest in medlars, persimmons, quinces and paw paws is growing. These and other exotic fruit are now becoming available from local and mail order nurseries.

Mespilus germanica (medlar) is a member of the same family as the apple, hawthorn, pear and mountain ash, but it is little known in the Pacific Northwest. At one time there were two specimens planted at the Flag Pavilion on the Seattle Center grounds.

The medlar is an attractive low-growing plant with an unusual, contorted habit and a maximum height of 20 feet. The crown is dense and spreading. The fall foliage ranges from a reddish brown to golden. In late May or early June, the tree is covered with white to slightly pink, five-petaled flowers (1 - 1.5") followed by a small brownish fruit somewhat like an apple. Allow the fruit to hang on the tree through a frost or two, then pick and store in a cool, dry place to ripen. Medlars are high in tannin and unbearably astringent and cannot be eaten until they are absolutely soft! Some liken the flavor of a ripe medlar to that of cinnamon flavored apple-sauce. It can also be used to make jelly.

Two sources of medlars are Raintree Nursery, 391 Butts Road, Morton, WA, 98356; and Hidden Springs Nursery, Route 14 Box 159, Cookville, TN, 38501.

Persimmons can also be grown in western Washington, although the Asian species may not always receive enough heat to produce a good crop. However, in a hot, full-sun location, planting 'Kaki', the Oriental persimmon, would be worth a try. Even without fruit, the American persimmon, *Diospyros virginiana*, is a beautiful small tree with the potential for extraordinary fall color.

All of the Asian cultivars of persimmon, with the exception of 'Fuyu', require that the fruit be ripe and soft before eating. As with the medlar, they are astringent, and biting into an unripe persimmon is an unforgettably unpleasant experience.

The trees will grow 20 or 30 feet tall. They are round-headed, picturesque plants with large dark shiny leaves which turn various shades of crimson, orange, or yellow before they drop. Although the small, creamy-to-

yellowish flowers are not showy, the fruits are attractive when they color yellow or orange in fall. The Asian species produce fruit up to 3" while the native's fruit is 2" or less.

Persimmons need full sun and well-drained sites. The Asian types are likely to respond well to being espaliered against a warm, south-facing wall, since they require more heat to ripen their fruit. Although 'Hachiya' is the Oriental cultivar most often sold in markets, it is not the one best suited for our area. 'Fuyu', 'Jiro' or 'Izu', because they are not astringent and can be eaten while still firm, are better choices. Good American cultivars are 'Early Golden', 'Ruby' (with 2" fruit), 'Meader' and 'John Rick'. The Asian cultivars are all self-fruitful. Except for 'Meader', all the American cultivars need cross-pollination, so you'll need two different plants to get fruit.

Asian persimmons are sold by some local nurseries in winter and spring. Try Furney's, Mizuki, Raintree Nursery or Northwoods Nursery (28969 S. Cramer Road, Molalla, OR 97038).

The Paw Paw, *Asimina triloba*, is a small deciduous tree native to the eastern US. It rarely exceeds 25 feet, has large drooping leaves, and produces attractive, 1"-2" purple flowers. The peculiar 6" bean-shaped fruit tastes like burnt custard.

Full sun and well drained soil are needed for this tree to fruit in our cool summers. Grow at least two different cultivars or seedlings for cross-pollination to get fruit. 'Davis', 'Sunflower' and 'Mary Foos Johnson' are named paw paws. Sources include Northwoods Nursery, Raintree Nursery, Pacific Tree Farms (4301 Lynwood Drive, Chula Vista, CA 92010) and Edible Landscaping (Route 2 Box 343A, Afton, VA, 22920).

The fruiting quince, *Cydonia oblonga*, (not the flowering quince, *Chaenomeles speciosa*, which is a shrub) can grow to 20 feet and can be planted and treated much like its relatives, pears and apples, but will not require as much pruning. Like its relative the medlar, it is an attractive, low-growing, artistically shaped tree that can be used quite effectively as an ornamental. Two-inch white to pink flowers are followed by large fragrant, somewhat lumpy, pear-shaped fruits to 4" long. Not edible when fresh, the quince is made into jams and jellies or combined with apples or other fruit to make sauces and pies.

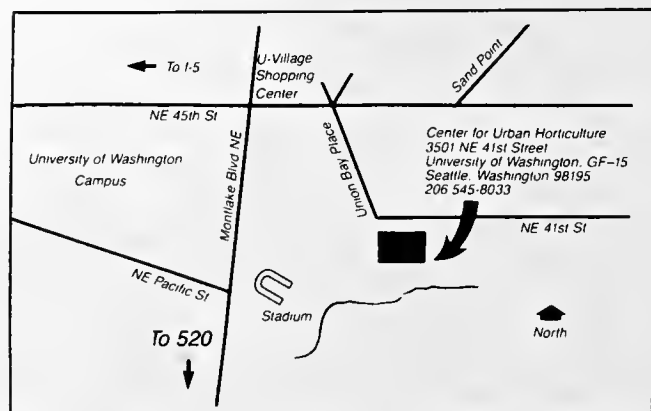
Although quinces tend to be self-fruitful, there are a number of cultivars available. 'Orange', 'Van Deman', 'Pineapple' and 'Smyrna' are available from several of the nurseries listed above.

Note: Many of these trees can be found in the Arboretum collection.

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