The Bee Line

NEWSLETTER OF
WESTERN CASCADE FRUIT SOCIETY
A NON-PROFIT EDUCATIONAL ORGANIZATION

SUMMER 1996

Apples Pears Figs Grapes Kiwi Cherries Nectarines Peaches Plums Blackberries Raspberries Strawberries Blueberries Currants Huckleberries Gooseberries Nuts

DON'T MISS THE
FALL FRUIT SHOW
SATURDAY, OCTOBER 27
SUNDAY, OCTOBER 28
at
Edmonds Community College
200th Street SW and 68th Avenue W
Lynnwood, Washington

LOTS OF FREE PARKING

Admission: Adults $3.00
Age 16 and under FREE

—APPLE TASTING—FRUIT IDENTIFIED—SPEAKERS—CIDER PRESS RAFFLE—
—FRUIT DISPLAYS—EXHIBITS—

PROGRAM DETAILS IN OCTOBER NEWSLETTER

SOME EVENTS YOU MAY WISH TO ATTEND

August 3	WCFS Board Meeting 1:00 p.m. University Library 50th & Roosevelt Seattle
August 4	Home Orchard Society 20th Anniversary Potluck 1:00 p.m.Springwater Grange, Estacada
August 10	Mount Vernon—11:00 a.m.Peaches, Nectarines, Plums Harvest $10 for non WWTFRF members
August 11	Summer Friends Day Brogdale Horticultural Trust, Faversham—11:30-4:00 - £4.95 for Coffee, Ploughman's Lunch and Tea
August 17 - 18	Brogdale Plum Festival - to see and taste a range of plums and enjoy first apples of the season
September 6 to 22	Puyallup Fair—WCFS Will Have an Educational Booth 10:00 a.m. - 10:00 p.m.
September 14	Mount Vernon—11:00 a.m.Pears and Early Apples Harvest $10 for non WWTFRF members
September 22	Autumn Friends Day Brogdale Horticultural Trust, Faversham—11:30-4:00 - £4.95 for Coffee, Ploughman's Lunch and Tea
October 5	Mount Vernon Fall Field Day & Open House 8:30 a.m. to 3:00 p.m.
October 5-6	Home Orchard Society All About Fruit Show Sunrise School
October 14	Mount Vernon—11:00 a.m. Apple & Pear Harvest (late season) $10 for non WWTFRF members
October 27 & 28	**WCFS FALL FRUIT SHOW**

FALL FRUIT SHOW INFORMATION

The Fall Fruit Show is scheduled for October 26 and 27 at the Edmonds Community College. An exciting and educational program of speakers has been planned: "Gourmet Cooking with Fruit" by Francois Kissel; "Edible Landscaping", Scott Connor; "Diagnosis of Fruit Problems", Sharon Collman; "Fruit Espaliers", Kristan Johnson; "Newest Ideas for Controlling Insects and Diseases of Fruits", Cisco Morris; "Starting a Fruit Garden", George Pinyuh. The complete schedule will be printed in the October newsletter. **SAVE THESE DATES NOW**

The apple identificaton experts will be there to name your mystery apple. You should select fruit that is typical in color, size and shape for the tree you are trying to identify. To assist them bring four to six specimen with stems and free from blemishes. If you don't have that many, bring what you can. DO NOT WASH OR POLISH. Refrigerate the fruit in a plastic bag if it has to be stored for more than one week. Questions you may be asked:

When was the fruit picked?
Is it from a single tree or a row of trees?
Is it from an old orchard or a new planting?
When is the fruit ripe and how well does it keep?
Is the tree upright, spreading or willowy?
Does it bear on the shoot tips?
Is it damaged by scab or mildew?
Is it good fresh?
Is it good cooked?

Its time to think about submitting fruit for display at the Fall Fruit Show. The following instructions may help you: Prepare a 3" x 5" card for each sample of three to five fruits with the variety name and other information you may wish to share. This could include the harvest date and other pertinent data. If you are submitting more than one kind, they can be arranged alphabetically. Prepare a larger sign with your name and the geographical growing area. Plates, which hold three to five specimen, will be provided. After harvest the fruit will need to be refrigerated to store successfully. If you can, it would be nice to have some fruit for the tasting display. More information next newsletter.

Volunteers are needed to help in several places-at the education table, selling tickets at the door, at the membership table, setting up Friday evening, at the tasting table, taking down after the show, selling raffle tickets for the cider press, at the fruit tasting table. It's a lot of fun, and you get free admission! To volunteer call:

for set up &/or take down	Orel Vallen	772-2119
raffle tickets	Marlene Falkenbury	522-2273
education table	Dick Tilbury	723-9009
membership table/door tickets	Evelyn Troughton	282-6191
tasting table	Bill Davis	771-8978

Remember, many hands make light work.

WCFS AT THE PUYALLUP FAIR

Western Cascade Fruit Society will have a booth at the Fair again this year. We are able to pass information to many people and gain new members. Leonard Jessen is chairing this event-he did an excellent job last year. The dates are **September 6 through 22.** Call Leonard to volunteer for a 4 hour shift and you will have free admission to the Fair and free parking. Two people are needed for each shift. Leonard can be reached at (206) 536-4590.

MY APOLOGIES to all of you for the late publication of this issue. I have been involved with a project that was more time consuming than I thought it would be - and was due earlier than I thought - for which I received remuneration, thus it took precedence! Many thanks to Marilyn and Dick Tilbury and their crew, who are getting this newsletter folded, taped, labels affixed and to the post office for me, as I am going to be involved with my part time job, managing the Boutique at the Opera House for the Seattle Opera Guild. La traviata opens July 24, and it takes three days to set up the boutique. WCFS is blessed to have the Tilbury's as members, as I am to have them as friends.

BITS AND PIECES

CORRECTION! CORRECTION! The Spring 1996 issue of *The Bee Line* gave the wrong phone number for Calendula Horticulture Books in Chehalis. Please note correct number is: (360) 740-1784. More apologies to all of you, and thanks to Calendula for the information.

Did anyone miss getting the Spring 1996 issue of *The Bee Line*? That is the FIRST time that a newsletter hasn't been returned to me as undeliverable, and no address corrections given to me. I am suspicious of the mail carrier. Please let me know as we need to know if the address we have is current, and we pay for that information.

The editor has not heard whether or not you like the two column format better than the one used here. How can we improve and make this as readable as possible if you don't respond. Does no response mean you like this format? I have had suggestions for articles and they will be forthcoming.

Orel Vallen now has the Fluorescent Lemon Yellow paint (brushable) for the apple maggot bait panels. It is available to anyone interested in building their own traps. The 1/2 pint can is $3.99; one can should cover about 20 bait panels (5 1/2" x 9") that have been primed with a good grade of exterior white. Call Orel at 206 772-2119. His mailing address is P.O. Box 78358 Seattle WA 98178.

The Book of Apples If you missed getting your order sent in and thought it was too late, you are in luck. There are still some copies available for those of you who didn't order it. The price is $21.50, payable to WCFS, and includes shipping.

Fruit, Berry and Nut Inventory is also still available. The cost is $16.50 and includes shipping. Make checks payable to WCFS and mail to the Treasurer.

Chuck Parkman writes: This past winter about half of my fruit, stored in two coolers, spoiled before I could eat it. I contacted Gary Moulton to get a solution to the problem. He suggested I contact Gene Kupferman, the Post Harvest specialist at WSU, Wenatchee Research Station. I called Gene and discussed the problem. He agreed to prepare an article on Post Harvest Fruit Handling for the back yard fruit grower to go in our newsletter. As soon as I get it, I'll send it to you, as it would be nice to get it in the next bulletin so would be available for our members this fall when they pick their fruit for storage. (Ed's. note: Look for the article in the October newsletter.)

News from WWTFRF WWTFRF approved funding research at WSU Research Station Moun Vernon for 1996 in the amount of $15,200.00 to be paid in quarterly installments. The funding covers the following variety trials:

$4,150.00	European and Asian Pears
$2,600.00*	Stone Fruits
$4,000.00	Disease Resistant apples
$4,400.00	Apples for Our Region

* Funding is being sought from the Washington State Nursery and Landscape Association for the balance

WWTFRF received an anonymous gift of $5,000.00 at their spring field day. The donor designated the gift to help promote fruit research in our region, and was particularly interested in research into disease resistant varieties and/or ecological growing techniques, but stated that WWTFRF should use the money in the way the board thought best.

New officers elected at the annual meeting in March: President, Don Shakow; Vice President, Sam Benowitz; Treasurer, Georgene Lee; Recording Secretary and Volunteer Coordinator, Linda Markholt; Corresponding Secretary, Larry Mowrer; Membership, Charley Bergeron and Larry Mowrer.

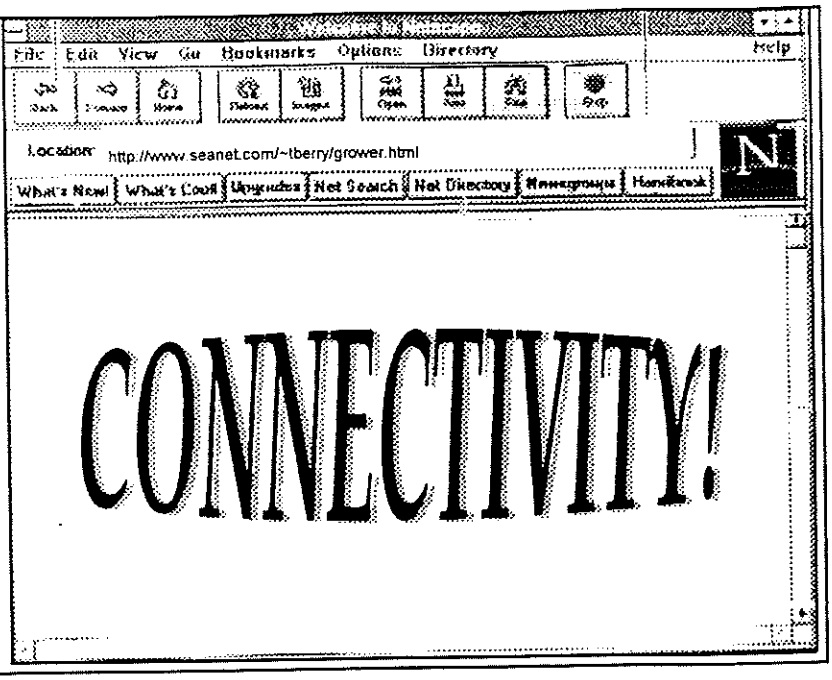
Annual membership in WWTFRF is $20.00 individual, $30.00 family, $50.00 sustaining

PREVIEW OF OCTOBER NEWSLETTER

Book review of Pomona's Harvest by Fred Janson--a book you will love
Information on fertigation
Pesticide use
and more!

Do you need a new term to add to your fruit grower's repertoire?

How About,...



We've all heard so much talk about the Internet, . . . maybe it's a good time to discuss the Fruit Grower Association's involvement in the World Wide Web.

For anyone not yet (or wishing to be) connected to the digital fibre optic backbone of America, and hence the world, the term Internet may just pose a problem seemingly best avoided. If you haven't made the umbilical attachment to a computer like this poor mechanic/farmer has, becoming hopelessly addicted to the thing, then you might figure that computers and any level of communications that they can offer beyond the good old telephone and the beloved fruit grower periodicals is just beyond practical need. It's true. Converting people to the Internet is a hard sell.

If you weren't born after 1970, . . . there probably aren't many of us that were, then you weren't introduced to the computer devices of the last twenty five years during your formative school years/. And, . . . if that's the case you've had to take the task of learning computer technology on your own, at your work or standing, more or less, ready to launch into the new mindset right now! Or, . . . are you?

So, . . here's the sell. It will probably only take you approximately $1,000.00 plus (+)'s dollars to equip yourself with a proper computer that can connect you with the Internet via a pretty good connection. (Your telephone is a pretty good connection--and that's the same connection that you use for your computer). Next, you will have to become somewhat proficient with the operation of the device and its connection. If you have young computer gurus living in the house, as I did at the time of my introduction, the brutal but thorough education will be somewhat abbreviated from that of formal paid-for classroom education, also available as continuing adult schooling at local collages. (I recommend the colleges).

Next, you'll need to arrange to connect your computer to the Internet. As I mentioned before, you can use your existing telephone line to connect your computer to the fibre optic backbone of the world. But, to do this you will either have to learn how to operate a "server" system on your computer and acquire a registered domain name via the agency that distributes those (we're talking more money and time and expertise) or call one of the existing online services that make a living connecting people like us for a certain amount of money per month.

Most of us choose the last option. It's a lot easier, and in fact, cheaper. There's a lot of competition in the world of Internet communications and it gets more fierce everyday. That's good for users like me (and you) because it is driving the cost of connection down. So, it pays to shop around before signing up with a server.

"So, where's the sell,". . . you say?

The benefits to spending all that money and learning new skills is the "Connectivity" part. With a good connection you will be able to access information and fruit growers (among others) from literally all over the world. The amazing part about the use of the Internet is that with a direct TCP/IP connection (more talk about that another time) your computer will actually be running the computer of your host at the other end regardless of where that other computer is in the world. I've been fortunate to meet people from Japan, Australia, Mexico, Canada, all of Europe and even Africa let alone our whole United States. I've contacted fruit experts in California, Geneva New York, Cornell, Michigan State, Penn. State, W.S.U., Oregon State (the list goes on). Remember Curt Rom, the ag. researcher from W.S.U.? I've been exchanging

mail with him and he plans to set up a server to distribute important fruit grower ideas and information. The term "lost in cyberspace" refers to the immense amount of people and information available that will just "get you lost" the deeper you get involved.

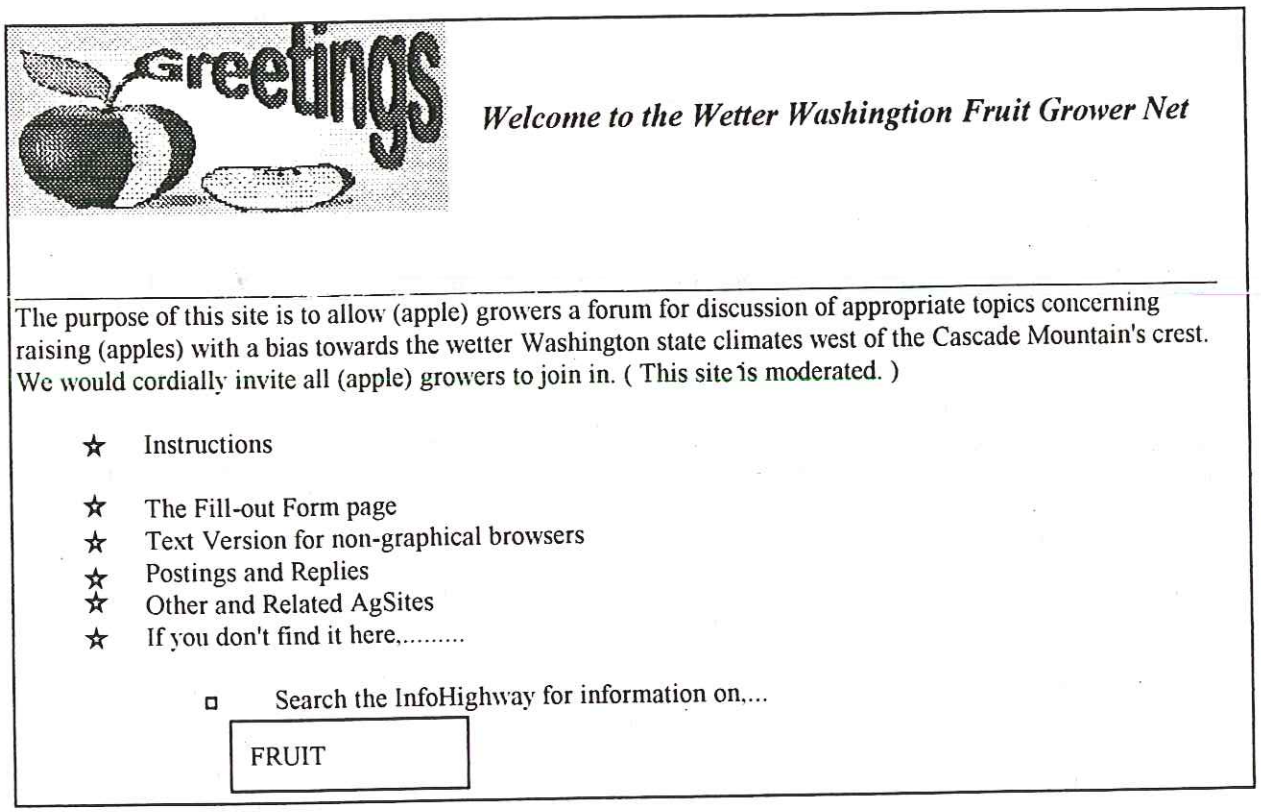
I'm busy and I don't have time to get involved."

Once you get your feet wet in "surfing the Internet" the newly acquired skills will allow you to take the whole thing in stride and make better use of your time. We as fruit enthusiasts need to share our skills, experiments, successes and failures so that we can help each other achieve greater success and better learn how to protect our precious earth environment. Admittedly, sometimes finding the perfect forum on the HUGE Internet for exactly what we need to discuss can be hard to find right away.

I'd like to propose that we find a site to gather at, when we get connected, to discuss our particular needs as Wetter Washington fruit growers. And, . . . I'd like to offer an existing site that has been up and running, for some time now, that I wrote specifically for fruit growers and the apple growers of western Washington. The format's first page is shown below and the address, URL (uniform resource locator) is:

http://www.seanet.com/~tberry/grower.html

Doesn't look familiar? It will when you get to step four. Want more discussion about how to get connected? Let me know. I'm available at: tberry@seanet.com



Tom Berry is a long time member of Western Cascade Fruit Society, serving as treasurer from 1984 to 1986. Since 1970 he has lived in Bothell where he and his wife, Sue, have 5 acres known as Canyon Park Orchard. Ground for Canyon Park Orchard was first prepared for planting in 1979, and today he has over 40 varieties of apples.

Commercially there are 12 varieties from early season Gravenstein, Akane, Paula Red, Jonamac to mid season Gala, Spartan, Macoun, 20 Ounce and on to late season Jonagold, Melrose, Winter Macintosh and Mutsu. The other 28 or so varieties including Ashmead Kernel, Golden Russet and Baldwin, are for personal interest or testing. The Berry's have graciously opened their orchard to tours and given of their time to share the triumphs and failures they have experienced.

Many thanks to Tom for this article, written as a follow up to one published in the Spring 1996 Pomoma, newsletter for NAFEX

SUMMER PRUNING FRUIT TREES

by Rick and Karen Maib Fruit Grower, May 1996

In high-density systems, it is now common practice to minimize dormant pruning and make at least two pruning passes during the summer. There are few cut-and-dry prescriptions on summer pruning. Planning your program gets even more complicated when factors such as rootstock, crop load, vigor, tree age, growing region, crop goals and fruit quality history are included.

Conversations on pruning often result in lively debates. Growers usually end up debating the "little stuff" but agreeing on the basic rules and principles. These rules and principles are what should guide us when designing and carrying out a pruning program, summer or dormant. In the book *Training and Pruning Apple and Pear Trees* (ASHS 1992), Forshey, Elfving, and Stebbins write that there are three objectives for summer pruning apple and pear trees: 1) to improve fruit color and quality; 2) to regulate growth and control vigor; and 3) to reduce pest disease problems.

Improving Color It is well understood that light is needed for color development of apples. In hot, sunny environments, it can be difficult to find the right balance between too much and too little light. A simple guideline for most varieties is to dormant and summer prune in a way that will ensure even light distribution throughout the tree and the orchard floor throughout the season. Develop a canopy that allows for transient shade and light exposure.

Pruning four to six weeks before harvest increases fruit color by improving light distribution within the tree. Summer pruning seems to improve color not only on red varieties but on Golden Delicious and Granny Smith as well. The timing for color improvement is during the hottest part of the year. Pruning must be carefully managed to avoid sunburn on newly exposed fruit. If pruning is performed too early, the effort may be lost to regrowth. Pruning too late can cause excessive preharvest drop.

Generally, early season summer pruning has the greatest impact on fruit size, generates more regrowth, and removes shoots that are a sink for nutrients.

Late season pruning removes shoots that are producing photosynthates, removes potential fruit sites, allows for less regrowth, and improves fruit color.

Controlling Vigor Summer pruning can help control excessive vigor if used in conjunction with training, fruiting, and other practices that control tree growth.

Varieties such as Rome Beauty respond to early summer pruning by initiating fruit buds. New shoots are cut in half when they are 6 to 8 inches long. This practice must be repeated until terminal buds begin to set. This alone does not reduce tree growth, but control appears to result mostly from the additional crop in following years. Pruning these same branches after they have grown through most of the season results in some overall growth reduction, but trees will respond locally during the following season as they would to a dormant cut of the same type. There may be loss in fruit size if pruning is severe enough to reduce vigor.

Do not summer prune weak or low-vigor trees. Reducing leaf surface area and photosynthesis on these trees will only make the problem worse, and fruit yield and quality will suffer.

In cases where tops of leaders are out of control, pruning to a weak lateral branch just after bloom may result in better control than dormant pruning. The resulting regrowth will have to be trained.

Summer pruning can make training young trees easier. Leader growth can be improved by removing competing shoots with a Dutch cut when they are very small. Growers of compact trees such as Braeburn have found this to be a useful technique. Undesirable shoots can be removed and growth directed into beneficial structure. In most cases, wood older than two or three years should be pruned during the dormant season.

Preventing Pests And Disease Where fire blight is a problem, remove suckers and other undesirable vigorous shoot. Use caution, however, as fresh wounds from pruning can create ideal sites for infection. Summer pruning will also open up the canopy and allow for better air movement and pesticide coverage.

Training and Pruning Apple and Pear Trees, C. G. Forshey, D. C. Elfving and Robert L. Stebbins, is available from the American Society for Horticultural Science, 113 South West Street, Suite 400, Alexandria, VA 22314-2824.

Rick and Karen Maib live and farm in the Columbia Basin. Rick is an orchard manager, Karen is an Area Extension Agent with WSU Royal Slope Unit in Othello

FIGS: "VULGAR" FRUIT or "WHOLESOME" DELICACY?

by Peter J. Hatch

When fresh figs are harvested and distributed to Monticello employees from the restored Fruit Garden—and some years we might pick thousands of ripe Marseilles, Brown Turkey, and Angelique figs—few crops elicit such a strong and varied response: either wild enthusiasm or frank contempt. Many first-time fig tasters, overwhelmed by the cloying, milky sweetness of the fresh fruit, say they prefer the sugary blandness of a Fig Newton. For others, the fig represents a kind of Holy Grail of fruit. The romance of the fig—the classical associations of its discovery by Dionysius and the thunderbolts of Jupiter; its Biblical tradition as the tree of knowledge and as a symbol of the fallen innocence and sensual pleasures of Paradise—further enhances its status as an exotic treasure, a culinary trophy. Finally, because of their sensitivity to cold, figs are a precious crop north of Zone 8, and for northern gardeners their harvest is a testament to a gardener's skill and diligence.

Similarly, the fig was a controversial item in the early nineteenth century. In 1835 Margaret Bayard Smith, a friend of Jefferson's and a central figure in the whirlwind world of Washington society, reported on a conversation with Henry Orr, "the most experienced and fashionable waiter in the city," about the menu for a sophisticated dinner party. When she suggested a dessert that included figs, Orr responded, "Oh no, ma'am, they are quite vulgar." Henry Phillips, whose *Pomarium Brittanicum* was reprinted in the Baltimore periodical, *American Farmer*, in 1822, said that in Sussex "I have known it not only neglected by the middle and lower classes, but even mentioned with derision in their disputes." In Great Britain, to give someone "the fig" consisted "in thrusting the thumb between two of the closed fingers or into the mouth" and was considered a contemptuous gesture. The tutor for an aristocratic Virginia family, Philip Fithian, who also could not "endure them," gathered figs in 1774 from the garden at Nomini Hall with the more appreciative "Ladies." Landon Carter was surprised at how "prodigious" summer rains had rendered Colonel Tayloe's usually "remarkably fine and luscious" figs "tasteless" in 1775 at Mount Airy on the Northern Neck between the Potomac and Rappahannock rivers. Nearby at Stratford Hall, the home of the Lee family, Lucinda Orr reported how in 1782 she and her cousin "walked in the Garden, sat about two hours under a butiful shade tree, and eat as many figs as we could." William Cobbett, author of *The American Gardener* (1821), found figs "a mawkish thing at best."

The "American Farmer," editor of the American edition of William Forsyth's popular *Treatise on the Culture and Management of Fruit Trees* (1803), was a typical fig proponent. He said this "fine wholesome fruit, though not an American favourite, is highly esteemed in countries where it ripens, and is everywhere deemed *wholesome* and *delicious* when eaten ripe from the tree. The editor knows that at first his neighbors in America who disliked their flavor, soon were fond of them, and they are in truth a wholesome and valuable fruit, as in his Maryland garden was often attested from experience." The "American Farmer's" defense of the fig, his repeated use of the word "wholesome," reminds one of a modern public relations campaign masking some suspiciously unsavory product.

Thomas Jefferson achieved some success with this tender species (*Ficus carica*), often recording harvesting dates and regularly passing on his favorite variety, Marseilles, to friends and neighbors. The fig terrace, in the south-facing submural beds below the Monticello kitchen garden was a popular destination for Jefferson-escorted tours of the landscape. It also created a warm microclimate that, when compounded by the unusual hardiness of the Marseilles, gave the Monticello figs a reputation for unusual fruitfulness. At least one contemporary considered Jefferson a pioneer grower of the fig. A friend and neighbor, John Hartwell Cocke, recalled that figs were "first successfully cultivated by Mr. Jefferson at Monticello after his return from his mission to France." Confusion about the American fig-growing tradition was also expressed by A. J. Downing, author of the landmark work, *The Fruits and Fruit Trees of America* (1845), who erroneously stated it was not until 1790 that William Hamilton, the renowned Philadelphia plantsman, first introduced figs into this country. Jefferson himself was clearly more factually correct, although at the other extreme, when in 1787 he wrote South Carolina's William Drayton, "The fig and mulberry are so well known in America that nothing be said of them."

Numerous accounts document the introduction of the fig into Spanish America and Florida in the sixteenth century. Plant explorer John Bartram described in 1766 how the English had ransacked the fruit gardens of St. Augustine, Florida, which had been occupied until then by the Spanish. The fig trees, however, were left unmolested; "As for the Figs, the English are not very fond of them." The fig was first reported in Virginia in 1621, when John Smith said figs "prospered exceedingly" after being brought to Jamestown from Bermuda. According to Smith, Jane Pierce, wife of Captain William Pierce, planted a three of four acre fruit and vegetable garden and harvested one hundred bushels of "excellent figgies' in the summer of 1629. Thomas Glover in 1676 observed that Virginia figs were equal to those in Spain, "but there are few planted yet," while Robert Beverley, thirty years later, said "there are not ten People in the Country, that have any of them in their Gardens." Other accounts suggest that the species may have been relatively unfamiliar to gardeners around 1800. Bernard McMahon in his *American Gardener's Calendar*, for example, justified his lengthy discussion of fig culture by noting the species was "not as well known in the United States, as other kinds of fruit-trees."

The fig is uniquely long-lived among all temperate climate fruits. Although consistently killed to the ground during cold winters, the plants themselves will survive for centuries, thereby providing a graphic confirmation of the existence of a historic garden. The unrelenting persistence of figs around the historic sites associated with the Virginia gentry suggests they may have been more common than the written record implies. A visitor in 1882 to George Washington's birthplace at Wakefield, where the house had long been in ruins, found "a dense thicket of shrubby fig trees covering a circular space of nearly fifty feet in diameter." In the 1920s members of Richmond's James River Garden Club compiled descriptions of well-known gardens associated with famous Virginians in *Historic Gardens of Virginia.* Among other sites, they described "great hedges" of figs at Brandon, a historic property along the James River below Richmond, "some upshoots of the original fig" at Mount Vernon, and old plantings at Landon Carter's Sabine Hall and Lady Jean Skipwith's Prestwould. In 1957 centuries old fig bushes were still thriving at Mount Vernon, Stratfford Hall, Jamestown, Williamsburg, and other historic sites in Virginia. Whether you like fresh figs or not, few garden plants can rival the fig for its central role in the tradition of southern gardens.

When Jefferson said the Marseilles fig was "incomparably superior to any fig I have ever seen," he implicitly ranked it with his great favorites of the fruit world. According to tradition, Marseilles was the variety of fig first introduced to England, when in 1525 Cardinal Pole planted a young tree at Lambeth, the London Palace of the Archbishop of Canterbury. This tree was fifty feet tall in 1834, a tribute to the longevity of the species. The small (2" in diameter), turban shaped fruit has a slightly ribbed skin, yellowish-white when ripe. The white pulp is rich and tapioca sweet. Marseilles, ripe as early as July 12 for Jefferson, it the hardiest and most productive of all fig varieties today at Monticello.

Angelique, called "white Angelic" by Jefferson was a popular market fig grown outside Paris in the eighteenth century. Angelique did not become popular in America until the mid-nineteenth century, when William Kenrick said it was "of excellent flavor." The yellow-skinned, pyramidal-shaped Angelique has white flesh with a fruity, red center.

Brown Turkey is considered among the hardiest and most delicious of all fig varieties. Philip Miller introduced this fig into England in the late eighteenth century as Brown Naples, and it was soon common in American nursery listings. A. J. Downing commented on its productivity and "delicious" red flesh.

Ed. note: Peter J. Hatch is Director of Gardens and Grounds at the Thomas Jefferson Center for Historic Plants. These articles, from the January 1996 issue of "Twinleaf", their newsletter, were submitted by Marilyn Tilbury. The Thomas Jefferson Center for Historic Plants, established in 1987, collects, preserves, and distributes historic plant varieties. Anyone wishing to contact them may address them at P.O. Box 316, Charlottesville, Virginia 22902.

WSU-TFREC BULLETIN NOW AVAILABLE ON CODLING MOTH MATING DISRUPTION

A bulletin on how to implement mating disruption for codling moth in Washington State apple and pear orchards is the first of an Information Series compiled by researchers at Washington State University's tree Fruit Research and Extension Center in Wenatchee.

Dr Jay Brunner, who wrote the bulletin with colleague Dr Larry Gut, said it should answer the many questions people have when they are using mating disruption for the first time. "It's impossible for us to talk to everyone, so what we have done is try to gather our best collectine wisdom and put it in one spot.

Brunner said mating disruption is a new approach to pest control in that it is highly selective, targeting only one pest. "We're suggesting monitoring methods and protocols that are different from ones we have used in the past. "You have to choose a product, apply it correctly, understand how it's going to work, and maybe how different physical factors may affect its performance, and then how to evaluate if it's working or not."

The bulletin explains codling moth mating behavior and the concept of mating disruption. It covers the influence of physical factors in the orchard, how the dispensers should be applied, and the amount of pheromone needed.

Protocols are suggested for monitoring codling moth in orchards where mating disruption is used, which is more difficult than where conventional controls are used. Often, mating disruption alone will jot provide acceptable control in orchards with moderate of high pest pressure, and supplemental controls may be needed to reduce populations at first. The researchers have developed action thresholds, based on trap catch, to help orchardists determine when controls may be used.

APPLES FOR THE 21ST CENTURY

by Warren Manhart
a book review by Bob Bourdeau

Are you seeking "new" apple varieties to plant in your landscape or are you looking for that niche variety for direct marketing? Perhaps you are interested in growing heirloom apples. Whatever your goal there is a wealth of information in this large (8 3/4" x 11 1/4") book with easy to read print, a pleasure to peruse. It is my perception that it is directed especially to the serious hobbyist and the direct marketer, however, it is certain to attract the attention of the novice, the amateur or the pro.

The book is based upon an experience of over 30 years as a home orchardist, commercial representative and an enthusiastic Home Orchard Society member and officer. His experience includes a test orchard which he has painstakingly winnowed over the years to arrive at his present collection of 50 superior apple cultivars, old and new, replete with striking color photos and the lore of each, which he offers as the centerpiece of his presentation.

The author stresses repeatedly that this is his experience, in his orchard in the Willamette Valley of Oregon. He is most careful to point out that those growing a given cultivar in a different location, different latitude, etc. may experience results that differ from his with that cultivar.

In order to give you an easy overview I shall summarize the seven "Parts", table of contents, which make the book so useful as a working manual and a reference:

Part I Introduction in which he comments on the changing patterns of consumer preference for apple varieties. He also discusses climate, chill time, apple chromosomes and pollination.

Part II Pictures and description, availability of 50 superior apple cultivars, notable new apples.

Part III Bloom periods, apple shapes, interstems, U.S. apple crops, commercial production, commercial cultivars, connoisseur apples.

Part IV Apple and rootstock history, treliis rootstock chart, treilis spacing chart - explanation, 50 cultivars - vigor and tree size, rootstocks of choice "Knowing which rootstock to use is the first and most important factor for success in growing quality apples."; cold hardy rootstocks, cultivars, planting guide.

Part V Physiological apple problems - netting, bitter pit, apple orchard culture management - pruning and reduction of pruning, fungal and bacterial disease, insects, cold country culture management, soils.

Part VI Small commercial orchards (direct market).

Part VII Favorite apple. (an engaging philosophical quest, can you guess his favorite four of 50?)

My review has been written from the viewpoint of an amateur fruit grower of some twenty years on Bainbridge Island. I know that I cannot successfully grow many of the varieties on his list. I have tried and failed. Having read this his book I have a much better understanding of my problems. If only his book were available before I took the plunge! You can do better. Buy the book! As Warren says of destination, "Have a good trip!"

Bob Bourdeau is a long time member of Western Cascade Fruit Society and NAFEX. He has contributed articles of interest to The Bee Line, and it is appreciated.

Apples For The 21st Century retails for $34.95 plus $3.50 shipping.

It is available in a group purchase (minimum order of 5 books) for $28.50 (includes shipping to Seattle). Hildegard Hendrickson has been taking orders - this review appeared in Seattle Tree Fruit Society newsletter The Urban Scion Post, November 1995. Hildegard has two orders and waiting for more to fill out the 5. You may call her at area code 206 523-2892 to place your order, or write to 2559 NE 96th St Seattle WA 98115.

SORTING OUT THE SOLAXE

by Rick Steigmeyer Fruit Grower, June 1996

This French tree training system brings apple trees into early bearing and works well with several new varieties

It's no surprise by now to hear that new apple cultivars and new high-density orchard systems demand radically different training and pruning techniques from what has been used in the past. But it's not often that growers and orchard advisors get such information directly from the source.

More than 700 members of the International Dwarf Tree Fruit Association (IDFTA) were treated to such an experience during the group's 39th annual convention held in February, 1996 in Penticton, B.C.

Tree Training Pioneer Jean-Marie Lespinasse is a French tree fruit scientist who developed the vertical axis (also known as the French Axe) and Solaxe tree training systems. Those systems, if not widely used themselves, have influenced modern apple orchardists throughout the world for the last 20 years. Lespinasse, part of the National Agricultural Research Institute in Bordeaux, France since 1962, advocates bending upright branches downward rather than pruning for most newer apple varieties being grown in higher density orchards.

Boosting Fruit Production The technique is one that encourages maximum fruit production early in the tree's life. Pruning forces the tree's energy into branch development, where it's not needed, rather than into fruit production, where it's wanted. Most apple growers are aware of the change in focus, developed to control tree vigor in high-density systems. Growers experimenting with high-density plantings have put aside their pruning shears and started bending and even breaking branches to keep their trees from outgrowing their space.

The Switch To High Density Lespinasse's work was central in the European switch to higher density training systems in the mid-1970s. Older vase-shaped training systems were not well-suited to natural tree functions of branching and fruiting, he noted at the time. His research became the basis for a tree training system based on the physiological behavior of several apple varieties.

Many modern tree fruit systems are based on Lespinasse's pioneering work, according to Bruce Barritt, a Washington State University tree fruit researcher in Wenatchee and educational director for IDFTA. Barritt is well-known for his Hy-Tec training system, which builds on Lespinasse's vertical axis system. Lespinasse may be better known in Europe than in this country because of the language barrier, but Barritt called his work one of the best examples of how orchard theory has spread worldwide. "This is an international industry not only in terms of global marketing of fruit, but in terms of ideas," he says.

Know Your Cultivars Lespinasse said each cultivar has its own branching and fruiting characteristics. Knowledge of those natural tendencies can offer a grower direction and economic advantages. Most cultivars fit into four broad classifications varying from full tip bearing in varieties such as Granny Smith and Pink Lady to spur type varieties such as Red Delicious. Fuji and Braeburn are examples of Class II and Gala and Golden Delicious examples of Class III. Classes are determined by four characteristics: main stem dominance, tendency to be trained into fruiting position, fruit wood production efficiency, and the fruiting pattern of its spurs.

Granny Smith Trains Easily Granny Smith, for example, is among the easiest trees to train to the Solen system (a precursor of the Solaxe) because of its weak stem dominance, the natural tendency of its long branches to droop into fruiting position, its need for only light pruning, and its ability to annually renew spurs. The latter characteristic results in a form of natural pruning that reduces the need for heavy thinning to control alternate bearing. On the other end of the spectrum are Red Delicious and other spur type varieties that want to grow straight up and which take more effort to get to fruit regularly.

Bending Branches Into Position Lespinasse's most recent theories on tree training abandon renewal pruning and concentrate on bending branches into fruiting position. The Solen method was developed in the late 1970s after the creation of several weeping hybrids that have a self-regulating fruiting behavior. His work with these new varieties on a vertical axis system led to his development of the Solaxe system.

The system works well for high-density orchards with less than about 1000 trees per acre. Lespinasse said other training systems are probably better-suited for very high-density systems. Lespinasse favors the use of the M.9 rootstock for the tip bearing varieties. The system relies on bending all branches downward to encourage fruiting and minimize growth of unproductive wood. Suckers that try to continue the tree's tendency to grow upward are removed.

Pruning is used to keep branches in their most simple design after the third or fourth year. Branch tips are not pruned. At planting, the tree is not headed. Any branches that might compete for dominance with the central leader are removed. Remaining feathers are bent into an arch.

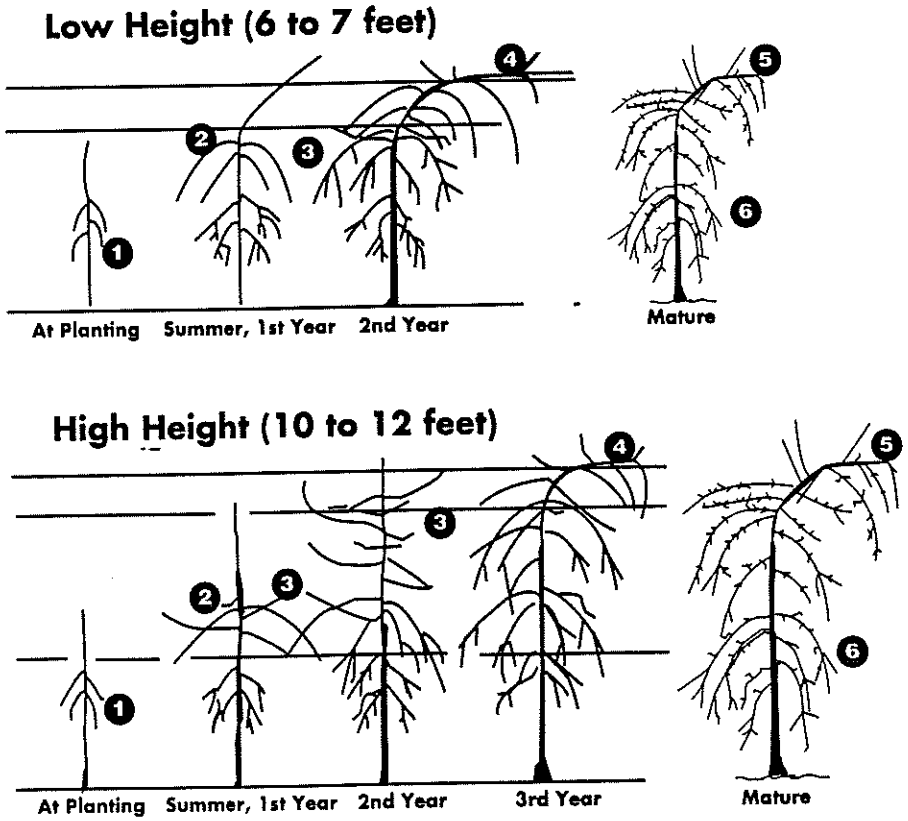
Branches that want to grow erect are bent below the horizontal during the first summer. The central leader is not bowed over until it reaches the tree's desired height, usually in May or June of the second or third year. The bending of branches speeds the balance of the tree between top and roots, said Lespinasse. He advises aggressive pruning of excess branches beginning the fourth year to maintain good light penetration. Branches can be positioned to allow best light penetration or shade, depending on the need. Spurs can be removed to renew fruiting vigor as needed. Research is on-going in order to better understand how various cultivars react to this process.

TRAINING TREES TO THE SOLAXE SYSTEM

This training method requires control of tree vegetative growth. Obtaining a bent branch without watersprouts or undesirable regrowth is the first objective for the main stem and its branching. During years 1 and 2, eliminate branches which are either too upright or too low. To facilitate tree establishment and favor early fruiting, don't cut back the scion at planting. Use a method based on bending rather than pruning. Bending to the axis to stop tree growth is performed at any height chosen by the grower, between 6 feet and 10 to 12 feet.

1. At planting the feathers are strongly bent into an arch; do not keep any vertical vegetative growth in this zone.
2. Keep all shoots that develop in the top of the tree. Disbud any axillary shoots which are potentially too competitive with the main stem.
3. Branches that are too erect are bent below the horizon during the first and subsequent summers.
4. The main stem is attached either in fall of first season's growth, or in May or June of second season (low orchards), or even later with higher stand orchards (third year).
5. The primary branch is stopped at 16 inches from the main stem of the neighboring tree to promote light penetration.
6. Pruning of excess branches should be made very progressively from the fourth year.

Training Trees to Solaxe System



JUST HOW LARGE IS A "STANDARD TREE" ?

by Ted L. Swensen

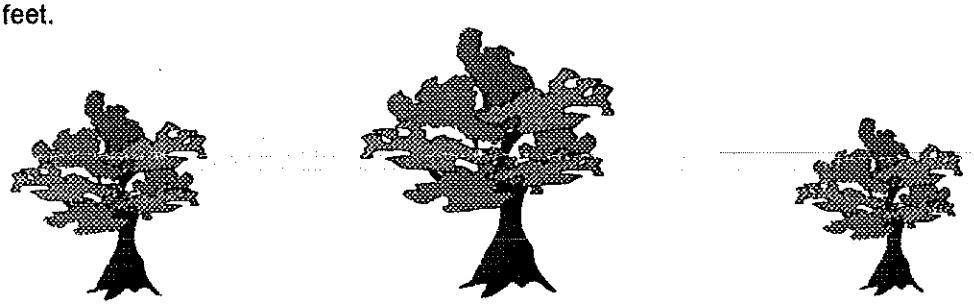
Pome News, newsletter of The Home Orchard Society

When I read the descriptions of dwarf and dwarfing rootstocks, I come across statements like this, "produces a tree 50-60 percent of standard." The next thing that comes to my mind is, how large is the standard tree? In many instances I do not know. So, 50-60 percent of what? The following information has partially answered that question for me and I hope it is of value for you. I say partially, because variety, soil fertility, and climate all play a role in determining tree height.

HEIGHT AND WIDTH OF SELECTED STANDARD TREES*

	HEIGHT	WIDTH		HEIGHT	WIDTH
Almond	35	30	Nectarine	25	25
Apple	40	40	Pawpaw	25	20
Apricot	30	30	Peach	25	25
Asian Pears	20	15	Pear	40	25
Cherry	35	40	Persimmon, American	30	25
Chestnut	50	40	Persimmon, Asian	20	20
Cornelian Cherry	25	25	Plum, Japanese	15	20
Fig	35	50	Plum, European	15	15
Hazelnut	20	20	Quince	20	20
Medlar	20	10	Walnut, Black	150	100
Mulberry	35	35	Walnut, English	60	60

*Unpruned trees in feet.



APPLE MAGGOT FLY TRAPS-COMMERCIAL SOURCES

(No endorsement implied)

This information courtesy of Dick Tilbury

If you are adverse to building your own yellow sticky traps, there are commercially available sources. Integrated Fertility Management (IFM) in Wenatchee (phone 800-332-3179) has yellow sticky traps with an attractant incorporated in the coating. They also have the red ball traps and sticky coating material.

Another source is Gempler's in Wisconsin (phone 800-272-7672) for their IPM catalog and free booklet PM 920, "How Insect Pest Trapping Can Save You Money". A bit of background: growers in the Northeast have had to contend with apple maggot since orcards were first planted by the colonists. A great deal of research on apple maggot control has been conducted by the University of Massachusetts (Umass). Supplies to accomplish the Umass recommended control were originally available thru Pest Management Supply, Inc. of Hadley, MA. However they have recently merged with Gempler's.

For the backyard grower Umass has found the 3" red ball traps coated with Tangletrap and supplemented with an apple scented lure hung within 10 to 12 inches of the red ball to be the most effective. (They are currently conducting tests of ammonium carbonate and butyl hexanoate lures.) Hang one red ball trap and lure for every 100 apples or one trap per dwarf tree. Gempler's have the red ball traps, Tangletrap, lures and sticky yellow traps.

A trap combining the features of the yellow sticky trap and the red ball trap with lure is called the Ladd trap. It is reported to be quite effective and is available from Ladd Research Industries, P.O. Box 1005, Burlington, VT 05402.

Another commercial source is Gardens Alive, 5100 Schenley Pl, Lawrenceberg, IN 47025 Phone 812-537-8650

RESEARCHERS REFINE WATER MANAGEMENT FOR GRAPES

by Melissa Hansen
Good Fruit Grower, June 1996

Updated water management recommendations for wine grapes will require more grower interaction and involvement, but the pay-offs to additional time spent in the vineyard will be many: better fruit quality through canopy control, less disease and insect pressure, improved cold hardiness, and timely fruit maturation.

For the past four years, various irrigation strategies on wine grapes have been studied by Dr Robert Wample, horticulturist at Washington State University's Irrigated Agriculture Research and Extension Center, Prosser. Water management trials have been located at the center and at a commercially-operated vineyard in Paterson, Washington, referred to as the Clore vineyard. Studies at Clore will continue through 1997, while those at Prosser concluded last year. The recommendations are in the final stage of development.

At the Clore vineyard, four levels of water have been applied since 1992:

1) HL—High irrigation (2.2 inches of water per foot of soil in the top 3 feet of the soil profile) during the early season, followed by low irrigation from the point where low irrigation controlled canopy development. Low irrigation, or 1.2 inches of water per foot of soil in the top 3 feet of the soil profile, was continued through the harvest, with a cumulative total of about 14 to 15 inches of water per acre feet applied;

2) HH—High irrigation, 2.2 inches of water per foot of soil in the top 3 feet, was maintained throughout the growing season to total approximately 25 inches of water applied. This extreme level was used primarily for comparative purposes;

3) LL—Low irrigation, 1.2 inches of water, was maintained throughout the growing season, totaling about 12 inches of water per acre feet for the season (this extreme was also applied for comparative purposes); and

4) LH—Low irrigation, applied early in the growing season until canopy development is controlled, followed by high irrigation through harvest. A season cumulative total of 18 to 19 inches of water was used.

Continuing the trial at the Clore vineyard for two more years will provide researchers with valuable information regarding the correlation between irrigation levels, and bud and trunk injury. "With the sub-zero temperatures we experienced this past winter, the project is taking advantage of a great research opportunity," said Wample. "We are bringing Martin Goffinet, a plant anatomist from New York's Cornell University, out here to assist in interpreting vascular injury of trunks and cordons."

Data collected in 1996 shows less injury of secondary and tertiary buds from the low temperatures for those vines in the LL and HL irrigation regimes as compared to the HH and LH treatments. Research results show that the LH scheme results in adequate canopy without sacrificing yield. Average shoot length for LH vines was 3.3 feet, compared with 4.0 and 4.3 feet for HL and HH, respectively. Some shoots on the HH vines exceeded 7 feet in length. Considerable interior defoliation associated with water stress was observed in the HL treatment. Soluble solids analysis showed no differences among the HL, LL, and LH treatments with all near 23%; the HH treatment was below 22% solids at the time the other treatments were harvested, making the harvest difference between first and last treatment around ten days.

"We know that excessive water treatments delay maturity," Wample said, "with competition for the vine's carbohydrates coming from both the shoot and the fruit." As water management for wine grapes is refined, he said growers will have to pay much closer attention to the physiology of the vine. Instead of irrigating by the calendar or soil moisture alone, shoot elongation and leaf development will become primary driving forces, he noted.

According to Wample, the change in canopy development associated with reduced irrigation occurs about 30 days after bloom. "Growers don't need to be irrigating in the springtime until they see the canopy growth slowing down," he stated. "Unless you have incredibly shallow soils and just can't wait, there is adequate moisture. The consumptive use by the vine between bud break to bloom is only about 1.5 inches of water." Of course, vigorous cover crops change the vineyard moisture requirements, he added.

At the time bloom occurs, data shows that there are between 10 to 20 nodes and a high percentage of leaf area already present. "You've got enough leaf area and canopy—you don't want to get an excess," the irrigation specialist said. Changes in individual leaf development seem to occur approximately two weeks prior to that seen for shoot growth and node number. The data suggest that monitoring leaf area development would provide enough lead time for growers to schedule irrigation needs, he said.

Given the research information thus far, Wample believes possible to produce a satisfactory crop of wine grapes with 12 to 20 inches of irrigation annually, including a postharvest irrigation to bring soil moisture to a level that will protect the

root system from early cold injury. Added benefits from the controlled canopy include improved air circulation, reduced humidity, and better sunlight exposure—all factors that present a less favorable environment for diseases such as powdery mildew and bunch rot. Previous research has shown that the build-up of insect populations like leafhoppers is discouraged as well, he said. "When the research is all completed, we'll probably end up somewhere in a low-medium irrigation regime instead of a low-high standard," said Wample.

LEAF REMOVAL IS BEST BET TO CONTROL BUNCH ROT

by Melissa Hansen
Good Fruit Grower June 1996

Leaf removal is still the most important and effective step that can be taken by grape growers to control bunch rot, Pacific Northwest University Extension specialist say. When performed at berry set or at shatter, after anthers have fallen off the flowers (well past bloom), leaf removal alone will control bunch rot (*Botrytis cinerea*) if nature provides a dry growing season and harvest, said Jay Pscheidt, Oregon State University Extension specialist. Care must be taken to prevent the bunches from sunburn, leaving protection on the west side of the vine. If leaves are removed at the proper time, the berries produce a thicker cuticle, preventing sunburn problems.

Trials have shown vineyards with leaf removal to have 5% incidence of bunch rot, compared with 28% rot in untreated vines, said Dr. Doug Gubler, plant pathologist at the University of California, Davis. "We know a lot about the epidemiology of this disease, but not how to get rid of it," he noted.

Researchers know that there must be free moisture for disease conditions and that it overwinters in canes, cluster stems, and mummified grapes and bunches left in the vineyard. Upon receiving moisture, the fungus erupts to spread spores. Rain early in the season will infect berries; rain late in the season also brings disease. "We know that pulling basal leaves always results in better berry quality than if they were not pulled," said the Extension disease specialist.

While some grape varieties are more susceptible to rot than others, Gubler said growers can learn to evaluate certain bunch characteristics that favor rot incidence. These include cluster architecture—cluster tightness and formation—and the amount of the protective epidermal layer produced by the berries. Cabernet Sauvignon is one of the least susceptible vine grape varieties, while Gerwurtztraminer, Chardonnay, Pinot noir, and Riesling are more susceptible

Recommendations given by Corvallis botany and pathology associate professor Pscheidt for controlling bunch rot in Oregon vineyards start with leaf removal. Fungicides, such as iprodione (Rovral), applied at bunch close or berry touch will provide good control as long as they are not overused. To prevent the development of resistance, the systemic fungicide can be used a minimum of twice during the season, but not more than four times, or resistance can be a problem.

Pscheidt advises growers to apply Rovral again at veraison and then wait to see if rain is expected at harvest. If so, one more fungicide application should be made before the rain, especially on susceptible varieties. The application must be made before rain releases the spores into the vineyard atmosphere.

Gubler has seen good results in trials combining oil with Rovral in tank mixtures, reducing bunch rot incidence to 4% and severity down to 0.18%. Use of overhead sprinklers for irrigation after veraison has occurred could compound disease problems, he added, possibly releasing new spores into the vineyard's atmosphere.

The Grape that can with Logic absolute

The Two and Seventy jarring Sects confute

Omar Khayyam

TALES FROM THE ROAD

by Dan Stephens

ORCHARD SLEUTH LOCATES PIRATED VARIETIES

First came Sam Spade, private detective in the movie classic *Maltese Falcon*. Next came Ace Ventura, pet detective. Now comes Jean-Pierre Foissey, fruit detective. Will sleuthing ever be the same? Foissey's detective prowess came to life in a recent article in *The Wall Street Journal.*

Sinking The Fruit Pirates

It seems nurseries hire the private gumshoe to skulk about orchards in the French countryside, rooting out growers who have pirated and propagated patented fruit varieties without paying royalties. Upon discovery, Foissey suggests growers of filched varieties pony up cash, or risk being sued.

The article related a case involving Tom Toyama, a researcher at Washington State University in Pullman, who devised a new apricot variety called Tomcat. Pier Riou, a French apricot grower, bought the European rights to Tomcat, only to find someone else already selling them. Riou was quoted as saying, "It was as if someone was selling Windows 95 before Microsoft did."

Foissey was quickly hired to unravel this French Connection. Using aerial photography and the legendary gumshoe footwork, fruit detective Foissey quickly found the bogus Tomcats. Under threat of litigation, suspected growers agreed to pay $8 per tree, less than the original asking price of $15. Plus, they got to keep their Tomcats, according to the article.

Could there be a market for fruit detectives in the States? Occasionally, nurseries discover a valued customer of theirs who might be growing pirated fruit. How does a nursery delicately broach the subject of this unethical behavior with a long-time customer? Perhaps a fruit detective, armed with a DNA lab for variety identification, might be a logical go-between.

The Gumshoe Blues

On second thought, I just don't think it would work in the U.S. students of the private detective genre know that a dyed-in-the-wool American fruit detective would need several things. First off, he'd need a wacky sidekick.

Secondly, the fruit detective would have to be a malcontent, a quick-witted tough with a hair-trigger temper, a street-savvy bad seed who's only too ready to throw a larynx-crushing blow.

And thirdly, he'd have to be a chain-smoking, womanizing, bourbon-drinking loner — a poster boy for every moral vice.

Problem is, I already have a job. (Just kidding of course.)

We'll have to wait and see if Americans import this latest French fashion — the fruit sleuth.

EDABRIZ: NEW DWARFING ROOTSTOCK FOR SWEET CHERRIES

by Michel Edin, Ctifl, Domain de Gotheron, Valence , France

Experiments established in 1983 have stimulated interest among cherry growers in a new type of orchard which would come into production more rapidly and would cost less to operate, using the new dwarfing rootstock Edabriz.

The trees on Edabriz are 20 to 25 percent the size of trees on Mazzard F-12-1 with varieties Burlat and Van. Fruit production started in the trird year and was higher per tree than of F-12-1 through the 10th year. Fruit size is good, provided conditions for tree growth are suitable; there is regular feeding of the trees; high quality virus-free nursery stocks are used, and renewal pruning is practiced.

For a pedestrian orchard, the vase system of training and spacing of 15 to 18 feet between rows and eight to 10 feet in rows appear suitable. For most varieties, compatability with Edabriz was good. Weak development in nursery and orchard was observed for three varieties whose phytosanitary state is defective.

Fruits and Legumes, #119, (France)
May 1994

THE ANCIENT APPLES OF PRIORWOOD

by Malcolm Archibald

When the ice receded and the climate warmed, trees covered the land. There were huge forests of oak, pine, hazel, willow and beech. Into these trees, between the slender boughs and not so slender trunks, man wandered to explore, to hunt, to gather and to settle. Men grouped their huts into small communities with the forest vast around them, stretching forever into the unknown.

As a mass the forest was frightening but individual trees could be controlled, worshipped or utilized. Gradually man got the measure of his environment, learned to use and exploit, learned what could be eaten and what was best avoided but after centuries of cohabitation, there remained more than a hint of awe. Man still feared nature and pandered to that fear by illusory religion.

Sacred oak groves witnessed human sacrifices. Rowan and Elder kept away the power of evil, hazel nuts gave prophetic powers and apples were divine. To these Celtic people of ancient Scotland, the privileged dead entered the Otherworld on production of a silver branch of an apple tree, heavy either with blossom or with fruit. This Otherworld was known as either Avalon - to the Brythonic Celts of south Scotland - or as Tir-nan-Og to the Gaels who would come to the west.

Avalon means "Island of Apples" and, interestingly, the island of Arran that rises stark, mysterious and beautiful from the Clyde, was known as "Emain Ablach," Emain of the Apples. A millennium later an echo of this belief is revealed in the Gaelic poem supposedly composed by a Christian, which has the lines:

"A tree of apples as big as those of fairyland, great bounty."

No doubt the Picts, enigmatic in all things, had their own stories, but these are lost.

The Celts did not just venerate the apple tree, they also exploited it, and made a potent drink by fermenting the juice of wild grown apples. But then came the Romans and their mailed sandals and short stabbing swords swept aside the cider trees of the Celts. Civilization centered on Trimontium fort and the legions probed north and west. Their time in Scotland was turbulent, and the chronicles tell of wars and massacre, invasion and battle. Names glower at us like dim headlights seen through a mist; Calgagus, Septimus Severus, Agricola and the pages of books are filled with the deeds of martial men.

Behind this warlike activity, the Romans lived in villas, constructed roads and imported apple trees from the sunlit south to the damp wild lands beyond Hadrians Wall. Although Calgagus was reported as saying the Romans "created a desert and called it peace," in the cultivation of apples they were probably superior to the Celts and they would graft their native fruit trees onto the hardy Celtic stock.

Perhaps the Romans of Trimontium, relaxing after a hard campaign against the Selgovae or Caledonians, would lounge on their seats, contemplate the hills and the meandering Tweed, and munch on a Pomme d'Api. This apple was far traveled even before it reached Rome, having been carried from Greece by Appius Claudius, and eventually reached the Roman occupied parts of Scotland. Pomme d'Api can still be found at Priorwood, a scant mile from Trimontium.

The Romans had their time, but Scotland was hard to hold and the legions withdrew, first south of the wall, then out of the island of Britain altogether. In their place came chaos, as Picts and Scots, Germanic Angles, Britons and Norsemen fought for supremacy and the orchards of Rome vanished beneath a tangle of briar and bush and bracken.

But through the darkness, sometimes faint but never wavering, the Christian Celtic church kept a presence. White robed, tonsured and devout, Celtic priests lived simply and with great gentleness. Spreading the Gospel from Iona, they settled on a crook of Tweed, adapted local customs to Christianity and survived the dramas of the Dark Ages.

They were within sight of Trimontium, in the shadow of the abandoned hill fort of Eildon and perhaps they planted apples. Perhaps too, Priorwood would have been founded without them, but that is to second guess history.

Legendary kings united the peoples of Scotland: Angus MacFergus, Kenneth MacAlpin, MacBeth. But stronger than all perhaps, was the quiet piety of Margaret, the Anglo Hungarian refugee whom Malcolm Canmore took as his queen and whom history subsequently sanctified. Margaret was a Catholic, as was most of Europe, and she labored to bring her adopted nation into the arms of the Universal Church. Inevitably there were casualties, and the Celtic church that held the candle of Christianity aloft for so long, was now doomed to a sad decline.

In its place rose the graceful and magnificent abbeys that even in their present ruinous state delight the eye. The sheer labor involved is breathtaking, for these structures were created with no mechanical devices and at a time when men either farmed, fought or prayed. David I, son of Margaret and Malcolm, founded some of the most significant of these poems in stone. Among them was Melrose.

If the Norman presence in Scotland came more by infiltration than by conquest, their influence was as much on agriculture as on politics. Their field system has come and gone, their feudal system survives only in the mind of certain anachronistic landowners, but some farming ideas they brought have remained.

The great Abbeys brought the sheep that continue to gnaw at the rough grass of border hills; Lords and Abbots introduced the apple orchards that grace the countryside, despite the bite of Scotland's winter air.

The Celtic site was too cramped for the Cisterian monks so they settled at Little Fordell, now Melrose, and there they built an abbey. Their taste for apples produced orchards in the fertile lands that surrounded the building, and where Priorwood Garden now spreads. The word cidersidre is of Norman origin and this acidic drink was often used in lieu of water, even for baptism.

Cisterian monks were not hermits; their travels broadened their knowledge so, even if they did not worship the apple, they certainly made good use of the fruit. Apples were eaten as food, drunk as cider, blended into medicine and pounded into skin or hair restoring cosmetics.

At the height of their power, the Abbots of Melrose controlled vast areas of land. They owned the granges (church farms) of Melrose, Eildon and Darnick, the forests of Selkirk and Traquair, fishing in Tweed and salt marshes in Turnberry, lands in Eskdale, Mauchline and Haddington. Lanark and Lessuden, Hassendean and Teviotdale. They lent money and hunted wolves, they had great power but they had strayed from their original simple life.

One Abbot was excommunicated for murder, another gained a reputation for licentious living and with the loss of public confidence came the decline of their religion. Like the Celtic church, their time had past and with it the glories. War and neglect destroyed the abbey and the once lovely orchards were abandoned or destroyed. Only sorry remnants remained beside the crumbling red walls and the rolling, tumbling, Tweed.

Although the great abbeys disappeared, interest in apple trees did not. The seventeenth and eighteenth centuries became something of a boom period, although admittedly less so in Scotland than elsewhere. Fruit trees were cultivated by most noble houses and in many cases may still be seen, as they can in some more modest but just as ancient, houses.

In those days of poor communications, there were many more varieties of apples, with each local area creating its own unique flavor. This changed when apple growing became commercialized and scientific advances produced fruit which were resistant to the more common ailments such as scab or mildew.

This mass production is necessary to supply the needs of a much expanded and mainly urban population, but it lacks the range and romance of the old days when apple trees were part of everyday life and people could pick their fruit from their own trees. The past, however, is not all gone; in 1974 the National Trust for Scotland spread from Melrose Abbey to the adjacent Priorwood Garden and began a revival of the ancient tradition. Many volunteers helped recreate what is now a piece of living, growing, history and one of the most pleasant places to visit in the borders.

Priorwood Garden is split in two and the larger section is dedicated to apple trees. It is an orchard, but of an unconventional kind and far better for that. Here are planted dozens of varieties of apple trees, from the incredibly old to the recently developed and here people are welcome to linger, or learn, or just to lounge.

Priorwood is a short stone throw from the grounds of Melrose Abbey and it is more than probable that this was an orchard for the monks. Some of the trees are old enough to bear this out. Other trees have been carefully replanted here, within the sixteen foot high walls and with glimpses of the mellow abbey ruins adding color to the softness of the green.

Overlooking the site are the three Eildon peaks, once the home of apple worshipping Celts, and within on mile in Trimontium, where the Romans chewed on Greek apples and pondered the scandal from the Tiber.

Here at Priorwood can be found Pomme d'Api. Here too is Court Pendu Plat, whose name means "suspended stalk" which again the Romans introduced. The Legionnaires from Trimontium could tramp in and feel quite at home!

As could the Celts, for there is a Crab apple, the small and bitter native fruit, and an original Scottish Wild Apple tree in the same section of the garden, one from a wood near Traquair, where the Melrose monks owned lands, the other from Berwickshire. Nobody knows exactly how old the Crab is, but it is described as coming from "a very old Crab Apple tree."

From the medieval period too, there is a selection of fine fruit. There is the Carlisle Codlin that is a nut sized cooking apple, and the Oslin. This might have come from Arbroath Abbey and legend says it was the first pip produced apple, therefore its name as the Original Pippin. Nearby is the very English Old Pearmain that were featured in a deed of 1204; the Manor of Runham was taxed for 200 Pearmains on St. Michael's Day.

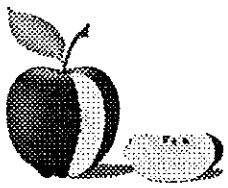
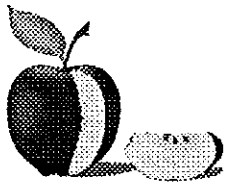
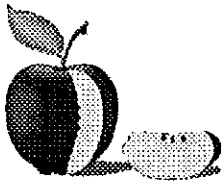
It is possible to touch the hoary old trees that bear these ancient fruit, to see exactly what monks and priors, Celts and Romans, and later nobility and peasants, ate and cooked and worshipped. A walking route has been laid out between and among the trees, young and old and ancient, and perhaps something of the cloistered peace of the abbey is here, or the cushioned world of the gentry, for their developments of the seventeenth and eighteenth centuries are also on display.

Among these is Flower of Kent, which may be the variety of apple that fell from a tree in Woolsthorpe Orchard the day Isaac Newton worked out the theory of gravity.

There are many others, the Tower of Glammis from the fertile banks of Clyde and the Galloway Pippin that is of great antiquity. There is the Keswick Codlin that was discovered in a Cumbrian rubbish heap, and the Golden Noble from Norfolk. There is the James Grieve, a delightful fruit, easy to grow and good to eat and the Ashmead Kernal from Gloustershire.

Although none of these apples can be described as superior to any other, from the Cox's Orange to the Golden Delicious, few can claim to be from a tree that belongs exactly where it now stands. Yet in Priorwood there is a very old tree, a White Melrose, a variety grown in this area and nowhere else for centuries. The monks would have known White Melrose apples and might have picked their sustenance from a not too distant ancestor of this very tree.

Editor's note: This article is reprinted from The Highlander Magazine, Barrington, Illinois and is used with their permission
Thanks to Walter Bergstrom, Tahoma Chapter, for sending this article to me.

AN ANTIQUE ORCHARD IN WASHINGTON

Good news!!! There is an antique orchard closer to home than Priorwood. Harvey Wederspahn of Selah has 1 1/4 acres of 85 apple trees with about 400 grafted varieties from Ashmead Kernel to Zusoff (and including the Melrose, Keswick Codlin, Golden Noble and six varieties of Pearmain [don't know which one of those six Pearmain] mentioned in the above article). In addition to the antique apples, Harvey also has a cherry tree, four apricots, plums, Asian pear, 8 varieties of grapes, 7 blueberries, 3 gooseberries, 3 currants and raspberries. (See The Bee Line Winter 1995 page 12 for article on Harvey.)

Harvey was one of the hosts for a WCFS orchard tour on October 1, 1993. Some of us went to the Central Washington State Fair in Yakima the next day specifically to see Harvey's display, a truly awesome sight. Unfortunately, it appears that we wont be able to tour his orchard as it is for sale. Now if anyone from WCSF would like to buy it and invite the membership to visit, Harvey can be reached by phone at 509-697-6701. His address is 190 Frosty Lane, Selah, WA 98942.

If there is enough interest from the membership, the Board would be encouraged to plan another orchard tour in eastern Washington and perhaps Harvey could be persuaded to have us again, if he is still there, or the new owner might become a WCFS member and would be as congenial as Harvey. Call your chapter president or one of the board

SCOOP OUT A LITTLE PAWPAW FRUIT

Cold-hardy trees produce these creamy-fleshed "tropicals"

by Lauren Bonar Swezey
Sunset Magazine

"If you love tropical fruit, you'll love pawpaws," says Ray Jones, an avid fan of these exotic, slightly curved fruits. Jones, who grows pawpaw trees in his Santa Clara, California, garden, calls pawpaws love-hate fruits. "They're creamy, custardy, floral, and perfumy all in one. But you have to like sweet-tasting fruit." Other pawpaw aficionados describe the flavor as somewhere between mango and piña colada or banana.

Although its fruit tastes and looks tropical, the pawpaw tree (*Asimmina triloba*) is native to the eastern United States. The pyramid-shaped tree grows slowly to about 15 to 20 feet tall, and withstands temperatures down to -15°. Its dark green, glossy leaves—about 8 to 12 inches long and 3 to 5 inches across—turn a beautiful yellow in fall. Musky, dark maroon flowers appear in spring on the previous year's wood.

The fruits have never caught on in markets, primarily because their soft skin makes them too perishable to ship and store. But that's not a problem for home gardeners.

Also 1/2- to 1-inch-long, dark brown seeds stud the flesh. To make sure you cut between the seed rows when slicing a pawpaw, follow Jones' advise. Turn the concave side of the fruit up, and slice the pawpaw in half lengthwise. Then scoop out the flesh; the seeds normally separate easily.

The fruit contains high levels of amino acids, vitamins A and C, and other nutrients. Compounds in the bark, leaves, and twigs are toxic to mammals, but the bark and leaves taste so bad that even deer shun them.

YOUNG TREES NEED PARTIAL SHADE For a year or so after planting, until trees are about 3 feet tall, they can't tolerate strong doses of ultraviolet light. But after that they prefer to get full sun. Fortunately, home gardeners have an easy way to shade young trees. Plant them in 2-foot-tall, biodegradable tubes such as Tubex Treeshelters (see source below). Remove the tubes when foliage starts to shade the trunks, or leave them on until they disintegrate in 3 to 5 years. Or make a cage about 2 feet in diameter around the tree (similar to a tomato cage, but smaller). Bend a 2 to 3-foot-tall piece of 6-inch-mesh concrete-reinforcing wire around the tree's trunk, and cover it with shadecloth.

Trees don't need much pruning, except to control their height and keep them shapely, and they are resistant to insects and diseases.

Fruits usually ripen from mid-August to mid-October. You'll know they're ripe and ready to eat when they start falling from the tree (ripe pawpaws are best eaten immediately). Jones catches his fruit in midair by suspending 1/2-inch bird netting from stakes placed under the branches.

WHERE TO BUY THE TREES Eight grafted varieties are now available from Western mail-order sources. 'Prolific' and 'Taylor' are Jones' favorites for flavor. Seedlings are also sold through catalogs, but their fruits can vary greatly in flavor. At its worst, seedling fruit tastes like turpentine.

Trees are most productive when two different varieties grow side by side and cross-pollinate. Pawpaws become established faster if planted in spring when buds are breaking and the ground is still cool; avoid disturbing the roots.

Northwoods Nursery, 27635 S Oglesby Rd, Canby OR 97013; (503) 266-5432. Eight varieties plus tree shelters

Raintree Nursery, 391 Butts Rd, Morton, WA 98356; (360) 496-6400. Four varieties.

Edible Landscaping, P.O. Box 77, Afton, VA 22920; 1-800-524-4156

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The Bee Line is the newsletter of the Western Cascade Fruit Society.
It is published quarterly; January, April, July and October and is included with membership.

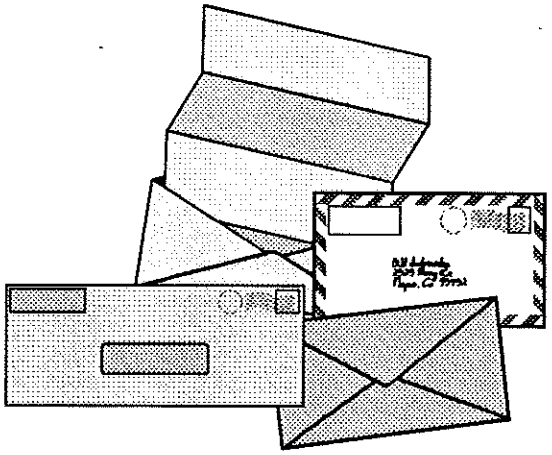
On page 33, you'll see what all those colors mean on the due date section of the label. If you don't have a color, nothing to worry about. If it is green, complete the renewal form and and send it in a couple of weeks or so. If its yellow, in a few days. If its RED, do it NOW.

NEXT NEWSLETTER EARLY OCTOBER

COLOR CODING FOR YOUR DUES REMINDER

If the DUE DATE on your mailing label is highlighted in **green**, your dues are payable before the next newsletter.
If it is highlighted in **yellow**, your membership dues are delinquent.
If it is highlighted in **RED**, this is your last newsletter. DON'T LET IT HAPPEN TO YOU, WE'LL MISS YOU.

INCREASED POSTAL RATES HAVE EFFECTED BULK MAILING ALSO. (WE HAD ANOTHER INCREASE JUST LAST JANUARY.) IT IS VERY IMPORTANT THAT YOU LET US KNOW OF YOUR CHANGE OF ADDRESS AS THE POST OFFICE CHARGES 50 cents FOR EACH ADDRESS CORRECTION AND **TRASHES THE NEWSLETTER.** IT IS 78 cents TO SEND ANOTHER ONE TO YOUR NEW ADDRESS AND WE DON'T ALWAYS HAVE EXTRA COPIES. **SNOWBIRDS** YOUR NEWSLETTER IS **TRASHED** ALSO. LET US KNOW IF YOU ARE GOING TO BE AWAY "TEMPORARILY" SO WE CAN HOLD IT , OR GIVE US YOUR TEMPORARY ADDRESS AND WE'LL SEND IT THERE, IF YOU WISH.



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(___) New
Name(s) _____ (___)Renewal

Street Address _____

City, State, Zip _____

Phone _____ PLEASE SPECIFY ONE CATEGORY BELOW

Standard $10.00 (__) North Olympic $10.00 (__) Peninsula-Kitsap $10.00 (__)

Piper Orchard $10.00 (__) Seattle Tree Fruit $18.00 (__) Tahoma $10.00 (__) South Puget Sound $10.00 (__)

(__)ENCLOSED FIND $5.00 EXTRA FOR WESTERN WASHINGTON FRUIT RESEARCH

HOW CAN YOU HELP THIS YEAR? PLEASE CIRCLE AS MANY AS POSSIBLE

BOARD MEMBER FALL FRUIT SHOW PUBLICITY FIELD TRIPS SPRING MEETING SPEAKER
COMMITTEE CHAIR ARRANGING FOR SPEAKERS OTHER_____

TELL US YOUR FRUIT INTEREST, SO WE CAN PUBLISH ARTICLES OF INTEREST FOR ALL

Apples Pears Peaches Plums Cherries Kiwis Nuts Berries Other:_____

Make checks payable to WESTERN CASCADE FRUIT SOCIETY and mail to:
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