



the BeeLine



Fall 2015

Newsletter of the Western Cascade Fruit Society

Inside:

Fall Fruit Shows	p 1
Dynamic Pear Pruning	2
Replant Disease is Myth	3
Shothole Borers	3
TOC	4
Pollinator Bee Trees	5
BIFC	6
Bob Purvis, Fruit Explorer	7
Chapter News	8

Fall Fruit Shows

Vashon Island Fruit Club Ciderfest

Sat., Oct. 10

Western Washington Fruit Research Foundation's "Sample the Apple and Pear Harvest" at Mt. Vernon Research Center, Oct. 10.

Peninsula Fruit Club

Sat., Oct. 24 from 10 am to 4 pm at the West Side Improvement Club, 4109 E Street, Bremerton 98312. Take the Loxie Eagans Blvd. exit off Hwy 3 and follow the signs. THIS IS A NEW LOCATION FOR 2015! <http://wcfs.org/wp-content/uploads/Fall-Show-Poster2015-Rev5.jpg>

Olympic Orchard Society

Sat., October 31, 10am-3pm, 100 S. Blake Avenue, Sequim. Washington St. Exit turn right on Blake. Speakers: Dr. Bob Norton and Dr. Joseph Postman.,

Southsound Fruit Society Meeting

Sun. Nov. 1, 1:00-2:00pm
Shelton Orchard, Shelton, WA
Talk and Pear I.D. with Joseph Postman



The BeeLine is a quarterly publication of Western Cascade Fruit Society, a non-profit 501(c)3 corporation in the State of Washington.

Dynamic Pruning keeps trees productive

Good Fruit Grower, Sept. 2015, Geraldine Warner

Washington's Wenatchee Valley pear growers are using the concept of "dynamic pruning" to produce large, high-quality fruit, according to Dr. Stefano Musacchi, research pomologist with WSU.

Dynamic pruning involves rotating branches and constantly renewing limbs to minimize the aging of the bearing wood.

Branches are pruned on a three-year cycle so that new branches are constantly being produced in the tree.

Year one: a branch is removed, leaving a stub.

Year two: a replacement branch grows from the stub.

Year three: spurs on the new branch will produce fruit.

To prevent blind wood, a common problem in Bartlett, Musacchi recommends "short pruning" which involves cutting off one-year-old wood at the end of two-to three-year-old branches. This will remove the apical dominance of the shoot, forcing buds to break lower down the branch. His objective is to keep the fruiting zone close to the trunk, where buds will be bigger and produce larger pears. Pears need more vigor to produce quality fruit, whereas apples can produce good fruit on weak wood.

To overcome blind wood on the axis, Musacchi recommends cutting the top off to remove the apical dominance and encourage branching. Girdling or notchings of the leader can also be done, using a clipper or small saw, to promote bud break below the wound. Girdling can be done at green tip and can be combined with four or five weekly applications of Promalin (gibberellic acid and 6-benzyladenine) to keep the shoots active and growing.

Any shoots that compete with the top of the leader or are 30 percent of its diameter should be removed to a stub because they can create shade in the tree. He recommends only one big cut per tree per year to avoid losing too much crop at a time.

Pear branches should never be bent below horizontal. A 45- to 60-degree angle keeps limbs productive.

* * * * *

Ripening pears—Glad you asked

Pears ripen from the inside out. A mature pear will snap briskly and cleanly when tilted 90 degrees. Pick the tree of fruit and place the fruit in a cool place: refrigerator or cool garage and let them sit. Gradually bring into the house the number that you would like to ripen and place them on the kitchen counter. Pears benefit from a period of chilling right after harvest. Keep your Bartlett pears at 30 degrees F for two to three days. When harvesting Comice or Bosc pears, the chill period should be extended to two to six weeks. After the chill period, pears ripen best between 65 and 75 degrees F. Pears ripen faster when they get a longer chill period and take longer if the chill period was cut short.

Marilyn Couture, OOS

* * * * *

About WCFS

Western Cascade Fruit Society (WCFS), formerly Western Cascade Tree Fruit Association (WCTFA), was founded in 1980. Its primary objective is to bring together new and experienced fruit growers who will promote the science, cultivation and pleasure of growing fruit bearing trees, vines and berry plants in the home landscape. We provide the public with the knowledge and ability to cultivate their own fruit-bearing trees and plants. Local chapters in geographical areas of Western Washington, disseminate information through education, fruit shows, orchard tours, meetings, workshops, publications, and give financial and other support to fruit research organizations.

As a 501(c) (3) Non-Profit organization WCFS is Parent organization to eight affiliated Chapters. The newly formed Bainbridge Island Fruit Club will make nine. WCFS provides 501(c) (3) Non-Profit status to Chapters via IRS group exemption, provides liability insurance for Chapters, maintains financial records, and makes annual reports to IRS. A Board of Officers and Directors manage WCFS.

WCFS publishes a quarterly BeeLine newsletter to inform members of events, tours, articles, and reports; a Web site — <http://wcfs.org>; and, a digest forum: <http://lists.ibiblio.org/mailman/listinfo/wcfs>. Members receive automatic membership in WCFS after joining an affiliated Chapter. A portion of chapter dues go to WCFS. Please refer to <http://wcfs.org> for chapter membership and dues structure.

* * * * *

The Fall 2015 BeeLine was produced by Gathering Editor Marilyn Couture, with input from membership. Please contribute your articles for our next Winter issue!

Issue Deadlines:
Winter December 15;
Spring February 15;
Summer May 15;
Fall August 30

Email your articles to: couture222@msn.com
Permission to copy from the Beeline is granted with attribution.



REPLANT DISEASE in Apple Trees is a Myth

Harry Burton, Salt Spring Island

There is a condition where new apple trees do not seem to grow well in a location where an apple tree has formerly grown. This has been called Replant Disease.

I have finally been able to prove that REPLANT DISEASE is a Myth and instead the assessment for apple trees not growing, should have been, I AM NOT PROVIDING THIS APPLE TREE WITH WHAT IT NEEDS.

This year, probably the driest on record on the West Coast of Canada (BC), I have had fabulous growth on about 104 new 1 year old apple trees planted in March 2015 in the same spot as apple trees previously grew. Every tree is now thriving in the hottest and driest part of the summer. Because of a limited space, I must replant in the same 16 foot grid location as the tree that was removed. But I was always suspect that the diagnosis of REPLANT DISEASE might be incorrect.

Here are the combination of the strategies that have proven successful.

- 1) Use a M111 (75% of standard) and M106 (65% of standard) in order to create a larger, deeper root system to better withstand our dry summers.
- 2) Add 1 teaspoon of mycorrhizae onto the roots of all newly planted apple trees. A mycorrhizal root dip gel might even be better.
- 3) Create a nutrient dense and balanced soil, which grows healthy trees, which in turn produce healthy apples. Our food is only as healthy as the soil in which it grows. So it is wise to have healthy soil. One book which really simplifies the whole concept is *The Intelligent Gardener* by Steve Solomon.

Not only does Steve give you the background information on all important soil nutrients, he also give you the target values for each nutrient needed in your soils in order to grow nutrient dense food. He also shows how these nutrients are all intricately linked together and then provides the optimum method to raise your soil to that target level if there are any deficiencies.

So you might look at Steve's approach as dealing with deficiencies or excesses of soil nutrients, and correcting them, by bringing that nutrient to a target value. Steve provides work sheets that will make the whole task of tuning up your soil, much easier.

For instance, from the results of a soil test, my nursery soil was deficient in Boron. I was easily able to add the exact amount of Boron to correct this deficiency. Note that a follow up soil analysis is very important next season to monitor the soil levels.

The author indicates that Boron is the starting nutrient for all mineral assimilation. WOW, I was missing the key to open the first door.

From Harry Burton

* * * * *

Stop Boring Your Trees to Death!

John Saltveit, HOS Member

Pome News, Autumn, 2015

I overheard a casual conversation a couple of years ago, someone asked Ted Swenson what to do about borers in their trees. His answer: aquarium cement. You buy a tube of the aquarium cement in a pet store and it looks like toothpaste. You spread it all over the invaded part of your tree until it looks smooth, like an un-invaded tree. Do this on a dry day. Check it out so it is smooth and round once it dries.

A couple of years later, I noticed one of the borers and a slug entering my pie cherry tree on a rainy day. I decided to email Ted. He said that the borers already inside the tree will suffocate, and the ones outside won't be able to get in. I concluded that it was highly probable that the borer was in the tree when I bought it at the nursery, so try to check for that when you buy trees at nurseries.

As we went into the winter, I was nervous for the next year. As you could imagine, the whole next year, the cement was not penetrated and the tree still looks to be in great shape. I see no evidence that any of the borers survived, which also bodes well for my many other fruit trees. Is it a completely organic solution? No, it is not. It works and it's practical.



Shothole Borer

* * * * *

Inside the Oregon Nonprofit Preserving the World's Best Apples

The Temperate Orchard Conservancy is fighting real estate woes—and the clock—to save 4,000 varieties of the Northwest's major crop.

Jonathan Frochtz wajg, *Portland Monthly*, July, 2015

To Joanie Cooper, Red Delicious apples are nothing more than a pretty face. The apple of her eye is something more like Germany's Zabergau Reinette, with rough skin and brown blotches.

"It's not shiny and bright red. You can't polish it," says the 75-year-old apple aficionado and Washington native. "I like the ones that have character." That appreciation for apple diversity—ugly ducklings included—led Cooper and a nonprofit called the Temperate Orchard Conservancy (TOC) to a piece of land outside Yoncalla, Oregon, three hours south of Portland, to save what may be the world's largest trove of apple types.

The collection is the achievement of Nick Botner, a hobby orchardist who started collecting apple varieties here in 1976. Over the course of four decades, by swapping cuttings with other "pomophiles" around the world, Botner quietly grew his 40-acre home orchard into a world-class assortment boasting more than 4,000 varieties. (A federal repository in Geneva, New York, claims to have more, but its collection includes thousands of seedlings that are genetically distinct but don't belong to any recognized varieties.) Now, this amazing assemblage is in danger. Last fall, the 89-year-old Botner put his property up for sale, apples and all. Cooper fears that a sale to the wrong buyer will spell disaster for the collection. "Unless they're nutcases like us, nobody buying the land will do anything with the orchard, because it's not commercially viable," she says.

Since 2011, TOC has been doing what took Botner 40 years and duplicating each apple type in his collection. With Botner's blessing, Cooper and TOC volunteers are painstakingly grafting cuttings from Botner's varieties onto rootstock—plant starts, essentially—and relocating the saplings to their new home on a 40-acre farm in Molalla. (Cooper owns the land.) As this time, the small crew has approximately 3,200 varieties in. What's at stake is more than one man's life's work: The loss of Botner's orchard could further shrink an apple gene pool already drastically narrowed by agricultural industrialization and the rise of monocrops since the 1920s. ("Homogeneity breeds vulnerability," Cooper warns. Less-popular, rough-skinned varieties—like the Zabergau Reinette—are often insect-resistant.) The TOC envisions a "lending library" of cuttings for amateur orchardists at the new location.

Says Botner, "People don't realize that there are some wonderful tastes out there."

* * * * *



The trees under shade cloth are this year's grafts. Thanks to generous donations we were able to get our baby trees into nursery beds. The new "deer fence" has them protected. Now it's time to get the ground in the permanent site worked, ready for planting next spring. Of course, irrigation is our next big challenge. The appeal is out to support this tremendous project. The generosity of Western Cascades Fruit Society and their many chapters is truly appreciated.

Joanie Cooper, TOC, Almaty Farm

* * * * *

Attention WCFS Members

Want to know instantly what's happening in the organization?

Subscribe to the WCFS Forum. It's a benefit of membership. The Forum is private and closed to the public. It keeps us together and on top of what's happening in our chapters. Click on this link and follow the prompts:

<http://lists.ibiblio.org/mailman/listinfo/wcfs>

Judi Stewart, Forum Administrator

* * * * *



Improving Pollinator Habitat with “Bee Trees”

Elizabeth Vogt & Kristine Gregonis
Vashon Island Fruit Club

What if we could extend the flowering season within and/or around our orchards, providing essential foods (nectar and pollen)? We can indeed do that, by planting “Bee Trees” in addition to our fruit trees, that attract and sustain greater numbers and species of pollinators.

Bees are not our only pollinators; they make up roughly 47% of the pollinator world. Species of ants, flies, beetles, butterflies, and moths round out the rest (not counting Dr. Bob Norton and his “puffer”!) However, bees likely are the most important pollinators because of their need for flower-producing food.

The majority (75%) of bees are solitary, not social (i.e. hive-type) and live in individual nests tunneled into the soil. For all bees, both the immature (larval stage) and adults, have a strict vegetarian diet requiring nectar - their carbohydrate/energy source - and pollen their protein and fat source for development & growth. Their dependence on flowers means they must visit flowers often. Flowers also provide protection from rain and predators, rest areas and mating sites. Bee adaptations such as hairy bodies with pollen-carrying structures, long tongues, learning abilities, and endothermic physiologies (ability to maintain a favorable body temperature) all contribute to their success as pollinators.

A relatively recent, very active, and exciting area of research concerns pollinator nutrition. For example, in April 2015, it was demonstrated that honey bee foragers that are pollen-stressed as larvae become poor foraging adults. Consequently, they won't pollinate our fruit trees as effectively, nor live as long themselves (see references below).

In the PNW, there are three major nectar/food flows occurring in the month of May (maples), July (blackberries), & late August (the noxious weed Japanese knotweed). Pollen is also abundantly available during these months. Now consider that pollinators, particularly bumble and honey bees, can be active even in January in our area; in other words, they are active outside these important periods of nectar availability. By planting bee trees and shrubs, we can help them find food and shelter during gap periods of food dearth.

Bee trees are deciduous, flowering plants that offer a single-source of unusually abundant nectar and/or pollen. This idea was first discussed several years ago by our local author Jim

McCausland, of *Sunset* magazine. For example, one Tulip Poplar tree could provide the equivalent amount of nectar as a ½ acre of annuals, and have that food source available over a longer period of time.

If you have any available property near your orchard, please consider planting these trees and shrubs. All of them do well in full sun with well-drained soil. Exceptions of these two criteria are the Dogwoods which like partial shade. Here is our short-list of nectar and pollen trees, in chronological flowering order:

- Hazelnut, both native Beaked and European (flowers Jan-Mar)
- Autumn Cherry (flowers in Feb and again in autumn)
- Japanese Flowering Apricot (flowers in Feb)
- Pussy Willow (*Salix* sp.) (flowers in Feb)
- Red Alder (flowers in March)
- Cottonwood (flowers early spring, dioecious, i.e. separate male & female plants)
- Linden (*Tilia* spp) summer months
- Franklin Tree
- Broad Leaf Maple (flowers Mar-May)

For a more complete list of the best bee trees and shrubs, as well as the understory plants that compliment them, please visit the Vashon Island Fruit Club website at this link: <https://vashonislandfruitclub.wordpress.com/> and look for the Gregonis post titled “A World without Fruit”. Also see Burgett et al (1989) *Nectar and Pollen Plants of Oregon of the PNW*.

Be aware that throughout the internet on numerous websites, lists of “bee-loving plants” contain noxious plants. Please be cautious and cross check those lists. See the following links to King County's Class A & B Noxious Weeds:

<http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/laws/class-a-list.aspx> <http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/laws/class-b-list.aspx>

For recent work on feeding our pollinators, see: www.ncbi.nlm.nih.gov/; PLoS On. 2015. 10(4):eo121731

Our message: we encourage all who can to ... *plant a tree & save a bee!*

* * * * *



WCFS NEW MEMBERS

BIFC

Joanna Blackburn	Ryan Willhoit
Lori Brakken	Judy Willott
Tony Couto	Barbara Von Tobel
Nick Daluiso	Thomas Zumbroich
Chris Fusare	
Beth Harter	TFC
Randy Lee	Mark Lore
Brian MacWhorter	Jeanette Dittus
Andy Maron	Peter W. Burke
Jackie McClure	Lisa Alba
Tami Meader	Sarah Walters
Darren and Kari Murphy	Shaundra Robinson
Steve and Beverly Phillips	Kat Hentsch
Deb Rudnick	Kim Demarest
JoAnn Schuh	
Ben Skotheim	
Brain Stahl	
Carlyn Syvanen	
Kirk Van Ness	
Steve Vause	
Nathan and Alicia Vause	
Eden Whitmire	

BIFC

Darren Murphy

The new BIFC chapter has been busy this spring and summer getting new members up to speed on a number of fronts, including presentations on fruit diseases/pests, watering devices, bee keeping, and pruning. The club also held a well-attended garden/orchard tour of Darren and Kari Murphy's micro-farm. On only 1/3 of an acre, Darren and his wife are able to achieve a high level of fruit and vegetable production through raised beds, container gardens, and extensive use of compost, mulching, and chicken manure tea. As a special treat, Darren brought out several quarts of his semi-frozen concord and reliance grape juices...which were a big hit among attendees. The club is now getting ready for the Island's Harvest Fair at the local Johnson Farm (Sunday, 9/27/15, 11am-5pm), where the BIFC will be holding an information/tasting booth. BIFC is also working with the Friends of the Farm to begin caring for the many 40 year old fruit trees at the Johnson Farm, including development of a demonstration orchard/garden. As a start, the chapter is holding a pruning demonstration (9/17/15, 6-8:30pm) for both BIFC and Friends of the Farm members.

Darren participated in the Kitsap County Fair PFC Information Booth with wife Kari and Mike Shannon



* * * * *



Learn to Grow Your Own Groceries!

All classes take place on Wednesday evenings from 7:00pm – 9:30pm at WSU Snohomish County Extension's Cougar Auditorium, 600 128th St SE Everett, WA inside McCollum Park. In addition, for those attending the first two classes, there will be an opportunity to have your garden soil tested at a reduced cost, and the results interpreted.

Sept. 30.....Healthy Soil = Healthy Plants Part 1

Nov. 11.....Healthy Soil = Healthy Plants Part 2

Jan. 20.....What to Grow in Western WA

Feb. 3.....Small Fruits, Big Harvests

Feb. 17.....Small Space & Vertical Gardening

Mar. 2.....Early Start = Early Harvest

Mar. 16.....Good Bugs, Bad Bugs, & Pollinators

Apr. 6.....Seed Starting & Growing Transplants

Apr. 20.....Weeding and Watering

Apr. 27.....Growing the Heat Lovers in the Chilly NW

Cost is \$25 per person per class, any five or more are \$20 each, or take all ten for \$175. Register online at GrowingGroceries.BrownPaperTickets.com. snohomish.wsu.edu/growing-groceries. For more information about the program, contact Kate Halstead, (425) 357-6024, khalstead@wsu.edu.

* * * * *

Home Canning Workshops

Online and hands-on courses teach how to preserve local foods safely. Series of four evening workshops at WSU Snohomish County Extension's Evergreen Room in McCollum Park, 600 128th St SE, Everett. The series repeats three times during the season on Monday, Tuesday, or Wednesday evenings.

Jams, Jellies, Sept. 30

Tomatoes, Salsa & Relish, Oct. 7

Pickling & Fermenting, Oct. 14.

Class size limited and pre-registration is required. Cost \$20/workshop.

For more information on any of the courses, contact Kate Halstead, WSU Snohomish County Extension Food Safety Program, foodsafety.snoco@wsu.edu, (425) 357-6004.

* * * * *

Portrait of Bob Purvis, Fruit Explorer NAFEX, Pomona, Fall, 2015

Born in the suburbs of Philadelphia, PA, Bob Purvis grew up with fruit trees, grapevines, berries, and gardens but earned his initial degrees in physics (B.A., University of Delaware, 1969) and astronomy (M.A., University of Virginia, 1972). After service with the U.S. Army in Alaska 1972-75, he remained in the 49th State and soon began to plant raspberries, strawberries, currants, gooseberries at his home in Anchorage. In 1980, less than a month after marrying Connie, his wife of 35 years, he planted his first apple tree.

While working full-time as a petroleum geophysicist for the USDI-MMS (1976-89), his growing interest in fruit led to founding and serving as first president (1985-89) of the Alaska Pioneer Fruit Growers. His leading the group in acquiring and evaluating many Canadian fruit cultivars for their suitability under Alaskan conditions ultimately resulted in a small commercial apple industry there. After earning an M.S. in horticulture, with an emphasis on tree fruits, from Washington State University in 1992, Bob worked as a horticulturist for Agrimanagement, Inc. and Columbia Reach Packers in Yakima, 1992-99. During this same time, he planted a large orchard of apple, apricot, cherry, peach, pear, and plum varieties in order to evaluate their performance at his home near Yakima and provide scionwood and finished trees to backyard fruit growers.

Moving to Cottage Grove, Minnesota in 1999 to work for the USDA as an agricultural statistician, Bob planted a home orchard of 49 cold-hardy fruit cultivars. Beginning in 2001, he gave annual grafting seminars near the Twin Cities as well as pruning classes, and also grafted, grew, and sold scions and finished trees of cold-hardy apricots, plums, and cherries to customers all over the northern U.S. In the process, he learned to cope with apple maggot, plum curculio, dogwood borer, and other pests and diseases common to the Upper Midwest.

Upon retirement from the USDA in 2007, Bob moved to Homedale, ID, to plant a small commercial orchard and nursery to fulfill an unmet need for cold-hardy fruit cultivars on rootstocks appropriate to cold climates. Last spring, he taught his thirteenth Minnesota grafting seminar and his sixth Idaho grafting seminar. A member since 1984 and past president (1994-96) and recent past secretary of NAFEX, he has served since June 2000 as chair of the Apricot Interest Group. Under his leadership the group has identified the apricot cultivars best suited to various regions of the U.S. and northern Europe and publishes an annual newsletter to disseminate recent findings on growing this fruit.

* * * * *

Chapter News

WCFS

Olympic Orchard Society

OOS met Tuesday, September 8, 7pm, Commissioner's Quarters at Clallam Courthouse. We were honored to have Mark Urnes speak on Wild Bees. Mark is head of Education and Beekeeper Trustee for North Olympic Peninsula Beekeepers Association.

The agenda included consideration of the following:

1. A Review of the OOS By-Laws with minor changes to clean them up.
2. Your recommendation for OOS Speakers, speaker topics, areas of interest, etc.
3. The Fall Fruit Show will be on Halloween this year. Speakers are Bob Norton and Joseph Postman. The OOS Grafters prepared 90 fruit trees for sale at the Fruit Show. Apple I.D. personnel from HOS will join OOS for this event.

Update: Angel Patti Gotz is putting OOS events on the WCFS calendar and helping Marilyn get the BeeLine online. Thank you, Patti

* * * * *

South Sound Fruit Society

Rusty Burlew, presented "Native Bees for Pollination" (above and beyond Mason Bees). Rusty Burlew is keeper of the blog <http://www.honeybeesuite.com>

In July the board and interested members meet to discuss the future of the club and ideas for new topics. It was a good meeting and we came up with a full slate for elections this September.

In August we met for desserts and brainstormed about grants and future talks.

We also have our facebook page up and running : <https://www.facebook.com/SouthSoundFruitSociety>

And new web site:

<http://southsoundfruitsociety.org>

* * * * *

WCFS OFFICERS AND BOARD MEMBERS

President	Ron Weston ronweston09@comcast.net
Vice President	Vacant
Secretary	Vacant
Treasurer	Jerry Gehrke bercogehrke@comcast.net

**Directors
2015**

Sally Loree
SAL@wavecable.com
Steve Vause
Svause@teleport.com
Elizabeth Vogt
eavogt@comcast.net

2016

Emily Gar Macrae
egmacrae@yahoo.com
Jean Williams
fhe@hurricane.net
Randy Lee
randylee3@yahoo.com

2017

Bill Horn
hornbill66@msn.com
Patti Gotz
plsgotz@comcast.net

Chapter Presidents

Bainbridge Island	Darren Murphy GardendadBi@gmail.com
Olympic Orchard	Jim House jahouse100@gmail.com
North Olympic	Rita Hubbard sidandrita@yahoo.com
Peninsula	Mike Geiser oldfaithfulgeiser@gmail.com
Seattle Tree Fruit	Paul Mallary seattletreefruitsociety@hotmail.com
Snohomish County	Bekie Jackson snohomishcfs@gmail.com
South Sound	Ian Stoner ianstoner2@gmail.com
Tahoma	Terry Tomlinson terryatmarys@comcast.net
Vashon Island	Carolina Nurik carolinanurik@comcast.net

* * * * *



Links

Here is a list of sites on the web that may be of interest to you.

Related Organizations

- Backyard Fruit Growers
www.sas.upenn.edu/~dailey/byfg.html
- California Rare Fruit Growers
www.crfg.org
- East of England Apples and Orchards Project
www.applesandorchards.org.uk
- Indiana Nut Growers Association
www.nutgrowers.org
- Midwest Fruit Explorers
www.midfex.org
- North American Fruit Explorers
www.nafex.org
- Northern Nut Growers Association
www.northernnutgrowers.org
- Oregon Sustainable Agriculture Land Trust
www.osalt.org
- Western Cascade Fruit Society
www.wcfs.org
- Western Washington Fruit Research Foundation
www.wwfrf.org
- Home Orchard Society
www.homeorchardsociety.org/
- Seattle Tree Fruit Society
www.seattletreefruitsociety.com/
- Seattle Tree Fruit Society—Apple ID program
www.seattletreefruitsociety.com/appleid.php

Fruit Research

- National Clonal Germplasm Repository
www.ars-grin.gov/cor
- Tree Fruit Research and Extension Center, Washington State.
www.tfrec.wsu.edu
- Northwest Berry and Grape Infonet.
berrygrape.oregonstate.edu
- Pedigree: A Genetic Resource Inventory System
www.pgris.com
- Oregon Department of Agriculture
www.oda.state.or.us

Government Sites

- US Dept. of Agriculture
www.usda.gov
- USDA Agricultural Research Service
www.ars.usda.gov

Helpful Sites

- Orange Pippin
www.orangepippin.com
- Kiyokawa Family Orchards
www.mthoodfruit.com
- Red Pig Tools
www.redpigtools.com
- Friends of Trees
www.friendsoftrees.org
- Cornell Gardening Resources
www.gardening.cornell.edu
http://www.fruit.cornell.edu/tree_fruit/GPGeneral.html
- The National Arbor Day Foundation
www.arborday.org
- UBC Botanical Garden
www.ubcbotanicalgarden.org
- The Reckless Gardener
www.recklessgardener.co.uk
- Farm & Garden
www.farm-garden.com
- SeeMeGarden.com
www.seemegarden.com
- GardenGuides.com
www.gardenguides.com
- VitiSearch: Helpful Resources about Grapes
www.vitisearch.com
- Avant-Gardening: Creative Organic Gardening
www.avant-gardening.com
- The Hardy Plant Society of Oregon
www.hardyplantsociety.org
- Ask the Berry Man
www.asktheberryman.com
- BackyardGardener.com
www.backyardgardener.com
- Tom Brown's website
www.applesearch.org

* * * * *