Fall 2016

the BeeLine

Fall 2016

Newsletter of the Western Cascade Fruit Society

Inside:

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

Very Sad News for the Western Cascade Fruit Society, especially the Tahoma Chapter.

After suffering an apparent Sudden Cardiac Arrest last week, Bob Hartman passed away. We will all miss his wealth of knowledge and are all better for having known him.

There will be a service 11:00 AM Saturday 10/22/16 at:
Puyallup Nazarene Church
1026 7th Ave. SW
(corner of 7th Ave. SW & 11 St. SW)
Puyallup, WA

Bob Hartman holds a Sweet 16, his favorite variety of apple to eat in his Nursery in Puyallup.

Debby Abe, Olympian Staff, wrote in 2010, Hartman encourages customers to visit his nursery to sample apples, for free, as varieties ripen in succession from late July to late October. A computer programmer and elementary school teacher by trade, Hartman started his nursery 30 years ago as a hobby, accumulating tree knowledge through reading, talking to experts and going on horticulture tours. Now that he's retired, the 66-year-old devotes full time to the enterprise. "I enjoyed it for myself and wanted to see other people enjoy the same." He operated his Fruit Tree Nursery at his ranch-style home in a Puyallup residential neighborhood. Though it's in his backyard, the two-acre nursery feels like a living boutique of fruit trees, where the purveyor showers customers with personal attention. The spread nurtures more than 40 varieties of apple trees, along with some 70 types of pear trees, Asian pear trees, plum and prune trees, and cherry trees. Part of the nursery is divided into six-foot-tall rows of espaliered trees, whose branches are pruned and trained to grow flat along wires strung across fence posts. Espalier allows the light-hungry apples to bask in the sun on all sides while letting visitors easily compare the likes of Akane, William's Pride, Sansa and Keepsake and their dramatically different fruits. Another section of rows features the "slender spindle" method that Hartman saw firsthand on a horticulture tour of Italy in 2007. As in espalier, the apple tree's base and major limbs are tied to stretched wires. Yet additional branches also remain, jutting from the trunk into the row, allowing more apples per tree. Hartman schedules 90 minutes with each visitor to ensure enough time to discuss such issues as: Do they want a dwarf, semi-dwarf or standard sized tree? Apples that ripen in August or October? Fruit for eating or canning? Are deer a problem at their home? What about their soil? The orchardist gives detailed instructions on tree care, preventing pests, increasing apple yield and other tips tailored to the individual tree.

* * * * *

Peninsula Fruit Club
Fall Fruit Show

Sat., Oct. 22 from 10 am to 4 pm

West Side Improvement Club, 4109 E Street,

Bremerton 98312. Take the Loxie Eagans Blvd. exit off Hwy 3 and follow the signs.

http://wcfs.org/wp-content/uploads/Fall-Show-Poster2015-Rev5.jpg

* * * * *

North Olympic Fruit Club

Fall Fruit Show

Sunday, October 30th, 10:00-3:00

Tri Area Community Center,

10 West Valley Road, Chimacum

* * * * *

Olympic Orchard Society

Fruit Tasting

Wednesday, November 9, 6:30pm-9pm

Clallam Court House, Commissioner's Quarters,

223 E. 4th Street, Port Angeles

Note: Due to Election on Nov. 8, our regularly scheduled meeting is on November 9.

* * * * *

Note: OOS member Pat Volk reported a link to an article in Lee Valley's Gardening Newsletter, "Tasting Exotic Apples". http://www.leevalley.com/us/newsletters/Gardening/2066/Article2.htm

The article promotes going to a fruit tasting show, but lists only four: our familiar Salt Spring Island and HOS shows. The other two are on the east coast—Franklin County Cider Days (MA) and Tom Burford's Apple Tasting (VA), on the Plantation once owned by President Thomas Jefferson.

* * * * *

About WCFS

Western Cascade Fruit Society (WCFS), formerly Western Cascade Tree Fruit Assocation (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 Falll 2016 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**

Xylella fastidiosa

Contributed by Lori Brakken, STFS

Information from: http://sipav.org/main/jpp/index.php/jpp/article/viewFile/2504/1181

Xylella fastidiosa (Pierce's disease) is a very slow growing bacterial disease that inhibits the xylem in a plant (making it look scorched & wilted) & was described for the first time in 1987 in the USA. It is vector-transmitted (leaf hoppers) and spread between many diverse species of plants but some are often host specific.

Since X. fastidiosa has more than 150 hosts and many of them, including Vitis planting material, were and are imported, risk of introduction (especially in latent form) must not be underestimated.

Vectors are mainly sharpshooters and froghoppers or spittlebugs (Cicadellidae).

SYMPTOMS AND TRANSMISSION

Grapevine. First symptoms are sudden drying of large parts of a green leaf. These parts become brown and the surrounding tissues become yellow to red. The necrosis is often present at the leaf margins. Scorched (burnt-like) leaves usually drop from the distal and not from the usual basal end of the petiole, leaving bare petioles attached to canes, often well after normal leaf fall. In later stages, more yellowing occurs and leafs shrivel and drop. Defoliation, shoot dwarfing and cane stunting, as well as dehydration of fruit clusters may occur. Irregular patches of brown and green tissue can be found on the canes. The trees may be reduced in growth, stunted and have a low and short production which may lead to plant death.

Peach. First symptoms are stunted young shoots that have earlier, more numerous and darker green leaves than normal. Moreover they show early blooming and both leaves and flowers remain on the shoots longer than normal. Twigs on diseased trees have shortened internodes and increased lateral branching. Lateral branches grow horizontally or droop. Fruit production is severely impaired and fruits are small and early ripening. Trees that will be infected before bearing will never be productive. Symptom development is often slow (up to 18 months or more after infection) and may be present in one scaffold limb or in the entire tree. An extremely dry summer seems to delay symptom development for at least a year. Phony-infected leaves are generally broader, slightly more flat, and stay on the tree longer in the fall. Phony-infected trees when completely infected appear uniform across the top, a hedged look (Fig. 1D). Trees are generally not killed but are more susceptible to other diseases and arthropods.

Citrus. Symptoms can be observed especially on sweet orange trees from nursery up to 10-year-old (older trees show just a few diseased branches). Plants do not usually die. Small interveinal chlorotic spots (slightly raised and gummy on upper side and brown on lower side of the leaf) on leaves in parts of a tree or all over the tree, very similar to zinc deficiency symptoms. In later stages brown necrotic spots develop on the lower side of the leaf, corresponding to the chlorotic areas on the upper side. Wilting may occur. Fruits remain small, have higher sugar content and a harder rind than normal and ripen earlier (Fig. 1B) Water stress or senescence may aggravate the symptoms. A chronic form of the disease shows stunting and dieback of twigs. The bacterium also occurs in the roots.

Cultural practices. Stress is often a determining factor in the development of symptoms once a plant has become infected with X. fastidiosa. Cultural practices should therefore be directed towards healthy, well growing plants and adequate nutrition.

The conclusion is that X. fastidiosa is a real and emerging threat for Europe, not only for Vitis and Citrus but also for stone fruits (almond, peach and plum) and oleander (e.g. GWSS likes to feed on oleander), that is difficult to prevent from entering and difficult to control once established, deserving more attention than up till now. Resistance in European grapes is scarce or even absent and vector control proved not to be very effective in the USA. Cultural practices to keep plants in optimum condition are of importance, but not sufficient and the use of avirulent strains for cross-protection is still in its infancy.

* * * * *

Pectin Content Test

Test the pectin content in fruit juice using rubbing alcohol.

Alcohol test: Mix 1 tsp of cooked, cooled fruit juice with 1 tablespoon of rubbing alcohol. Use a closed container and shake gently. Juices rich in pectin form a solid jellylike mass that can be picked up with a fork. However, juices low in pectin form only small jellylike particles, so such fruits require powdered or liquid pectin in order to set.

CAUTION: Do not taste the fruit-alcohol mixture, as rubbing alcohol is poisonous. Throw it away and wash all your utensils well.

The amount of pectin in fruit varies. Fruits such as citrus, tart cooking apples, currants, gooseberries, cranberries, quince, and half-ripe blackberries are high in pectin. The pectin content in all fruit is also generally higher when fruit is just barely ripe and diminishes as it matures from fully ripe to overripe.

Pectin can't work alone, however. Without the correct proportions of acid and sugar, jams or jellies won't set.

* * * * *

Zestar!

Jeff Nielsen, NAFEX, August 6

Zestar! apples. I love their sun-kissed red blush skin, but mostly it's a wonderful tasting, early apple. Early apples are great because there is just less to go wrong than if you leave them on the tree for another 2+ months like Granny Smith or Fuji, for instance.

Zestar! is sweet yet mildly tart, hard, and crunchy. It's very good.

My Zestar! apple trees seem to have little issue with fungal or insects, but I do spray for both on all my trees. I usually don't spray past early June because I find the trees don't need it and I have fruit coming in all over the yard at that time (strawberries, cherries, blueberry, blackberry, peaches, etc) and don't want to contaminate it for fresh eating.

Zestar! trees are clean, have beautiful foliage, and bear very sexy apples. ;-)

It's an early-blooming tree but it seems to get through spring frost fairly well. In fairness, both older trees are in a microclimate close to my house. My two older trees have cropped every year in the past seven years. Seems like an easy tree to grow: plant it and it does its thing without much attention. These trees are in their10th season, purchased from Stark Brothers (on either M26 or M9 rootstock they say). The tree is about 11' tall x 11' wide but doesn't grow much because it's loaded with apples every year. It sets heavy and I thin them every year, but not much ... just enough to get rid of the bad apples. (I am not kidding, thinning by hand has this huge advantage). Normally, 11' is too tall for me, but this is acceptable given the great production and light expansion. Pruning is quick and easy on these two older trees. I am also growing Zestar! on rootstock Bud 9 and it's doing quite well, producing a gorgeous crop in its third year. I pulled blooms for first two seasons and let it grow up. I may have cropped it a bit too aggressively, noted by slight growth so far this year. Finally, I have Zestar! on Geneva 41 as well, but those trees will be planted 2017. It's hard not to love this apple. It is easy to grow, produces reliably, ripens in the early season. It is easy to control disease/bugs, is a beautiful tree with beautiful leaves, gorgeous fruit, and finally, it's a great tasting apple.

* * * * *

Pear Ripening

link to Pear Ripening conditioning manual from the Pear Bureau: http://trade.usapears.com/wp-content/uploads/2015/07/USA-Pears-Pear-Handling-Manual.pdf

This reference was mentioned in Good Fruit Grower magazine.

* * * * *

Braiding Your Fruit Trees?

Darren Murphy BIFC

I know most of us have pruned, trimmed, grafted, and just had fun with our fruit trees—but have you ever thought about braiding one? Last year, several suckers came up from a nearby plum tree in my back yard. I had thought about mowing them down, but then thought it might be fun to try braiding them. After letting them grow last year, I braided the three largest suckers. The following photo illustrates what a summer of growth did to my little experiment. My wife, Kari, isn't all that sure about having another fruit tree in our back yard…but for now I am going to see how it goes. My plan is to graft several plum varieties onto the top branches next spring, as well as see how the three separate trunks grow together. Stay tuned for more updates next year.

* * * * *

Dealing with Earwigs & other Orchard Pests

Bob Purvis 1568 Hill Road, Homedale ID 83628
(208)-407-6781 purvisrc@msn.com
Nafex Pomona Summer 2016

Earwigs are notorious as pests on apricots here in southwest Idaho. In the past, backyard fruit growers have tried various strategies such as Tanglefoot bands on trees to prevent them from crawling up the trunks to enter and live in the fruits as they come ripe. Sprinkling Sevin in powder form around the base of the trees has also been a successful practice. Several years ago, troubled with ants in our kitchen, my wife did some research online for a solution and found a product called InTice. Orthoboric acid is the active ingredient, and the signal word on the label is Caution. A granular bait, it looks like wheat bran in appearance and is listed as killing not just ants, but also roaches, crickets, mole crickets, silverfish, sowbugs, pillbugs, earwigs, centipedes, and millipedes. The bait is weather- and moisture-resistant. In my past use of it in the orchard, it reduced earwig damage on apricots from 15% to 20% on my Robadas (our best apricot, a commercial cultivar from California) to near zero. During the 2016 apricot harvest, damage to apricots has been zero as of June 17. I sprinkled InTice around the trunks of all my apricot trees a week before the earliest cultivars (Apache, Earliblush) were ripe enough to harvest. I sprinkle it in a narrow band around the trunks of my apricot trees so that the earwigs will encounter it before they begin to climb the trunks. Of course, this will be less effective if the tree branches are touching the ground. I have not tried this, but given earwigs' proclivity to hide under boards, rocks, etc. an equally good strategy might be to lay a shingle on bare soil near the tree and sprinkle InTice beneath it. InTice is manufactured by Rockwell Labs Ltd., North Kansas City MO 64116, (866) 788-4101, website www.rockwelllabs.com. I do not have a record now of where we purchased it but would presume that Gardens Alive! or Peaceful Valley Farm Supply would probably carry it. I have seen earwig damage here not just in apricots, but also on sweet cherries, where they hide in large clusters of cherries, and even on apples; but the problems here are too minor to be worth treating for. The product is labeled for both indoor and outdoor use.

* * * * *

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

* * * * *

Determining Apple Fruit Maturity

To allow time to schedule labor, growers must estimate optimum harvest dates. In addition, there are different optimum maturity levels for the same cultivars, depending on intended use and storage life desired. Harvesting too early results in fruit that is off-flavor or lacking flavor, poorly colored, small, and subject to bitter pit and storage scald. Leaving fruit on the tree too long results in softer fruit, the potential development of watercore, and a shorter storage life.

Stage of maturity can be assessed by performing the starch-iodine test to document starch disappearance. Applying an iodine solution to the cut surface of fruit stains the starch a blue black.

Apple Maturity Indices

The obvious first step in marketing a high-quality product is to grow a high-quality product. Early tree training, annual pruning, proper fertilization, and sound pest management can greatly affect tree vigor and, thus, fruit condition. Light crops, crops from extended bloom periods, or crops with high nitrogen levels may differ markedly in maturity date and subsequent storage potential. Each block and cultivar or strain should be evaluated separately for its maturity and storage potential.

The list of maturity indices include: starch, firmness, juice sugar and acid content, seed color, flesh color, presence of watercore, background color, and internal ethylene concentration (IEC). Of all the indicators, background color, starch content, and firmness are the most important factors in guiding harvest timing. They are correlated to some extent with sugar content, acidity, flavor, aroma, texture, IEC, and potential storage life. If a fruit lacks the characteristic background color of a specific variety, obviously it will be difficult to sell as a fresh market item. A fruit harvested without desirable color will not change significantly during storage. Fruit lacking characteristic background color is most likely going to be firm, starchy, and immature. The only viable outlet for such fruit is most likely the processing market. However, fruit destined for processing also has minimum maturity standards. Fruit with low starch readings of 1–2 on an index of 1–8 are still immature and will lack flavor and sugar content.

Cont. page 6

Apple Maturity from Page 5

They will have a desirable firmness, but the flavor aspect will overshadow this. In general, a combination of the presence of background color, starch conversion of 25–35 percent, and firmness above 15 pounds will qualify for a good storage or processing candidate. For immediate consumer consumption, the presence of background color, starches in the range of 4.5–6.0, sugar content above 13 percent, and firmness readings greater than 13 pounds should meet consumer expectations.

Before doing any measurements, choose a sample of trees per block per cultivar and rootstock that are typical of the trees in the block, and mark them so that you can collect weekly samples. Trees should have a uniform crop load and be of uniform vigor. Begin sampling approximately 4 to 5 weeks before normal harvest is anticipated. Sample four fruits from the periphery of each tree. Fruit temperature can affect certain test results; measurements of the samples' maturity should be performed within 2 hours of harvest.

Days after full bloom (DAFB)
DAFB should be used as a general reference to indicate when fruit might mature. There may be a 5- to 20-day spread between the average harvest date and the optimum harvest date for a particular cultivar. Record full bloom by block and cultivar each spring, since full bloom may vary from one site on your farm to another.

Fruit firmness
Firmness can be measured with either an Effigi fruit tester or a Magness-Taylor pressure tester. Both work on the principle that fruit flesh becomes softer as it matures. Many factors, including watercore and fruit size, can affect firmness readings. The presence of watercore will give higher readings that are inaccurate. Therefore, discard firmness measurements of apples that have watercore. Large apples are usually softer than smaller ones, so for firmness measurements try to choose apples of a relatively uniform diameter. The most critical feature of firmness testing is the speed with which you apply force to the plunger. The proper speed is about 2 seconds to get an accurate reading. For apples, use the 11 mm tip supplied with the pressure tester and penetrate to a depth of 7.9 mm as marked on the plunger. Test each apple on both the blush side and the nonblush side, then average both readings.

Percent soluble solids (or sugar levels)
As fruit matures, starch is converted to sugars. To measure the percentage of Brix, or sugar, in a solution, a refractometer can be used. As fruit matures, refractometer readings increase, indicating fruit maturity is progressing.
A refractometer can be purchased for around $200. Measurements are made by squeezing a small amount of juice from the fruit onto the prism of the refractometer. A small garlic press works well to produce the juice. Hold the instrument up to the light and read the percentage of soluble. solids by looking through the lens. After each sample of juice, rinse the prism face off and wipe with a soft tissue to avoid contamination among samples.

Acidity
As fruit mature, their acid content decreases. Malic acid is the major acid in apple juice, and it plays a major role in the flavor attribute. Granny Smith apples have developed a well-known image based on their tart or acidic flavor. Some apple varieties, such as Pink Lady, attain acid values as high as 1.4–1.5 percent in juice. There are no guidelines for maturity based on acid level.

Starch levels
Stage of maturity can also be assessed by performing the starch-iodine test to document starch disappearance. Applying an iodine solution to the cut surface of fruit stains the starch a blue black. The iodine solution can be made by dissolving 10 grams of iodine crystals and 25 grams of potassium iodide in 1 liter of water. The pattern of starch disappearance is specific for each variety. Delicious loses its starch in a fairly even ring, while Golden Delicious shows an uneven pattern.
Fruit used for firmness testing and soluble solids readings can also be used for the starch-iodine test. Cut the fruit at right angles to the core, approximately halfway from the stem to the calyx end. Apply the iodine solution to the cut surface, drain away any excess, and rate the fruit after 2 minutes. The reaction of iodine and starch is temperature-dependent. Under cold conditions, the reaction will take longer. An external heating source will speed up the reaction in cold environments. Avoid contact and be cautious when mixing and applying iodine solution. Test a minimum of 10 fruits per block, preferably 20. A commonly used rating system is a scale of 1 to 6, as follows:
1 = full starch (all blue-black)
2 = clear of stain in seed cavity and halfway to vascular area
3 = clear through the area including vascular bundles
4 = half of flesh clear
5 = starch just under skin
6 = free of starch (no stain)
In Washington State, general guidelines have been established for using this scale to rate the long-term storage potential of Delicious and Golden Delicious: a 1.5-2.0 rating and a 2.0-3.0 rating, respectively. Growers should develop scales of their own for their varieties and growing conditions.

A good reference for starch testing is " Predicting Harvest Date Windows for Apples " by G. D. Blanpied and K. J. Silsby, Information Bulletin 221, Cornell Cooperative Extension.

Source: Penn State Tree Fruit Production Guide. Penn State College of Agricultural Sciences research

* * * * *

Getting To the Root of Improved Fruit and Vegetable Production

By Lauren María Alexander, *Growing Produce*

Taking a holistic approach to soil health is a key to increasing plant vigor and yields. High yields begin with healthy soil, and maintaining a proper balance between nutrients, microorganisms, and other compounds is an essential part of the soil health equation.

Mycorrhiza, which describes the symbiotic association between plants and a specialized root fungus, plays an important role in enhancing plant performance and growth.

Through this mutually beneficial relationship, mycorrhizal fungi colonize plants roots, enabling the roots to access nutrients and water that may otherwise be unavailable to plants.

Mike Amaranthus, founder of Mycorrhizal Applications, which focuses on the research and development of mycorrhizal inoculum for commercial use, explains exactly how these beneficial fungi work, and how you can use them to help improve overall plant health and increase yields.

What Are Mycorrhizae And How Do They Work?

According to Amaranthus, the relationship between mycorrhizae and plant roots has been active for approximately 460 million years, and between 85% to 90% of plants form this relationship in their natural habitat.

"It's one of those relationships where both the plant and the fungus benefit," Amaranthus says. "The mycorrhizae benefit the plant in allowing it to access nutrients and water that are essential for the plant's performance and growth. In turn, the fungus depends on the plant for sugars from the plant roots, which give it the energy it needs to grow into the soil."

The fungi act as "roots of the roots" and are fine threads that grow off of the roots themselves, Amaranthus says. They are especially important in the uptake of phosphorous, nitrogen, calcium, magnesium, and other key micronutrients that may be bound up organically or on soil particles.

Weed, Disease, And Drought Benefits

Not all plants form mycorrhizal associations, including crops such as kale, spinach, Brussels sprouts, canola, mustard, and sugar beets. But on the plus side, some of the world's worst weeds do not form mycorrhizal associations either.

"Weeds come in following a disturbance in the soil, and disturbances knock out the mycorrhizae. Without mycorrhizae, the weeds get a competitive advantage and are better able to access phosphorous in the soil. If mycorrhizal fungi are established, you can help starve weeds of phosphorous," he explains.

Regarding disease resistance, Amaranthus says that like many other fungi, mycorrhizae produce antibiotics, which are capable of deterring root pathogens. They also have the capacity to selectively transport salt and toxic compounds away from plant roots. "They depend on the roots for their energy source, so they want to keep the roots healthy, active, and growing. For this reason, the salt and the toxic compounds don't get translocated to their cells," he says.

Mycorrhizae's benefits include drought protection due to roots' improved ability to extend further into the soil to access water. "Mycorrhizal roots are a lot spongier because they can get more water out of the soil, and they store them in specialized cells. They're also much thinner so they can get into the small spaces in the soil where water is being held," Amaranthus says.

A study Amaranthus conducted that was repeated by the University of California, Davis in 2013 showed almond trees inoculated with mycorrhizae experienced a 60% reduction in plant moisture stress. "Some of the studies have demonstrated six or seven days of growth in drought situations," he says.

Application Methods

Mycorrhizae can be applied to the soil in granular, powder, and liquid forms. "We grow the seeds of the mycorrhizae, or what we call propagules. Mycorrhizal inoculums come in powder or granular forms. Growers can add water to the powder and add mycorrhizae in the liquid form near the seed, they can coat the seed with the powder, which puts the inoculum right where the roots come out of the seed, or they can band the granular material in furrow," Amaranthus says.

To maintain populations, he says that any practice that fosters root growth will foster mycorrhizal development. Mycorrhizal development is most rapid when soil temperatures are between 40°F to 70°F and when soil fertility levels are moderate. Fumigation eradicates mycorrhizal development and re-inoculation should be at least two weeks following fumigants.

"With mycorrhizae, the bottom line for the end user is that they can get improved yields with less inputs. It's a win-win situation," Amaranthus says. "There's an opportunity to save money, and it improves the efficiency of the plant's ability to feed itself." Article submitted by Judi Stewart, NOFC

Editor's Note:

M. Couture has been applying Complete 6-4-4 from Hendrikus Organics for 7 years. It contains feather meal, potassium sulfate, lime, gysum, dolomite lime, kelp, humic acid, beneficial soil bacteria and fungi, endo and ecto **Mycorrhizae.** My children receive a bag each Christmas. A super product!

https://www.hendrikusorganics.com/organic-fertilizers/complete-6-4-4/

* * * * *

Apple Cider Vinegar, Roger Eichman, NOFC

Using whole apples:

http://sevennutrition.com/digital/make-your-own-apple-cider-vinegar/?utm_source=Seven+Nutrition+Daily+Newsletter&utm_campaign=17e684189c-Make_Your_Own_Apple_Cider_Vinegar_08_16_8_16_2016&utm_medium=email&utm_term=0_8a8b7c088f-17e684189c-87982161

From apple scraps:

http://www.theprairiehomestead.com/2015/02/how-to-make-apple-cider-vinegar.html

It is Good Fruit Grower magazine signup time for 2016/17 renewals and new subscriptions. The deadline for me to receive your payment is Sept. 24th.
As WCFS members we get a substantial group rate reduction. Our group subscription cost is unchanged for the coming year. This is a Washington State Fruit Commission magazine that contains cutting edge information. Magazines arrive monthly and some months arrive semi-monthly.
Questions? Email to jerrygehrke60@gmail.com or 206 696-4072 cell

Make $20 check payable to WCFS and mail to:
WCFS Treasurer
PO Box 2242
Vashon, WA 98070
Also include:
Your mailing name and mailing address.
Your phone number and email address please.
Again, your deadline is Sept 24th for me to receive your check and contact information.
Thanks.
Jerry Gehrke
WCFS Treasurer/Membership

Editors Note: Check with Jerry Gehrke for deadline before sending your check.

* * * *

From: Chuck Polance, Tahoma

This was a long and busy September for the Tahoma Chapter. Thousands of WA State Fair attendees were attracted to the WCFS booth. Many were there to buy raffle tickets for a chance to win a Correll cider press. Curious visitors were invited to attend our meetings and chat with other fruit growers.
A posted monthly schedule of timely "fruity"subjects was prominently displayed and served to generate follow-up contacts.

What was the result of this community outreach? The Tahoma Chapter will add at least 9-Fairgoers to its growing membership roster. For joining, each will receive a grafted apple tree at the next Chapter meeting on October 6th. We are looking forward to giving them a hearty WELCOME!

* * * * *

Sour Cream Pear Pie
This is our most popular pear dessert at the Pear Party in September, says Dollie Rasmussen, of Rasmussen Farms, Hood River. A Mary Moore original, from the famous Pine Grove Grange dinners.

1 cup sour cream
1 egg
¾ cup granulated sugar
1 tsp. vanilla
¼ tsp. salt
2 Tablespoons all-purpose flour
4 cups ripe pears, peeled and diced (about 8 medium)
1 unbaked 9-inch pie shell
Pecan streusel topping:
¼ cup all-purpose flour
¼ cup firmly packed brown sugar
1 tsp. ground cinnamon
¼ cup butter, cut in small pieces
¼ cup finely chopped pecans
To make pie: Preheat oven to 375 degrees. Blend the sour cream, egg, sugar, vanilla, salt and flour until smooth. Fold in the pears. Pour into the pie shell. Bake for 40 minutes.
Sprinkle with topping and bake another 10 minutes. Cool slightly and serve.
To make topping: Combine flour, brown sugar and cinnamon in a bowl. Mix in butter until mixture resembles peas. Mix in pecans.

* * * * *

GardenGard, Pat. Pending

Dr. William Strong, Logan, UT

WCFS NEW MEMBERS

BIFC

Joanna Blackburn

Lori Brakken

Tony Couto

TFC

John Uson

Theresa Knutsen

Gordon Gillespie

Jennifer & Cameron Mascho

LouVel Johnson

Peter & Liz Katich

Liz Holm

BIFC's Fruit Tree Renovation Project at Johnson Farm

This summer has been an exciting one for the Bainbridge Island Fruit Club. We have toured several fruit and veggie gardens and taken on a really big orchard rehabilitation project on the Island.

Orchestrated by JoAnn Schuh and Darren Murphy, BIFC has joined with Friends of the Farms to rehabilitate the Johnson Farm heritage orchard! July 16th was our first pruning event in which staff from Friends of the Farms, club members from BIFC, along with a generous donation from Westerlund Tree Service for manpower and pruning equipment to help speed the initial renovation. A significant number of the trees were pruned to improve the quality of their fruit, and create a healthier tree structure for future fruit production.

The goal says, Darren Murphy, club president, is to slowly rehabilitate the trees for improved fruit production, expand the number of varieties (both heirloom and modern), and increase the educational value of the orchard.

Johnson Farm is a City of Bainbridge Island owned farm and is managed by the not-for-profit organization Friends of the Farms. The farm has a significant orchard of approximately 49 trees which are mostly apple, but also includes various pear, plum, cherry, nut, and grape varieties. In addition, the farm site hosts a community garden P-patch, as well as commercial farming leased by Butler Green.

Needless to say this is a very exciting project for the club and we look forward to helping the trees become healthier and more productive.

Cindy Anderson, BIFC Secretary, hauling limb

* * * * *

Chapter News

WCFS

Olympic Orchard Society conducted an Open Forum meeting on Sept. 13, 2016, at Clallam Courthouse. Gathering Editor, Marilyn Couture is sharing the contents with the hope that other WCFS Chapters deem it useful.

Moderators included Pres. Jim House, Erik Simpson, Pat Volk, and Marilyn Couture. Issues discussed included:

Over pruning or no pruning can affect apple bloom most of the time in a negative way.

Scab fungus can cause fruit to crack. The scab spores over-winter in leaf folds. Leaves should be removed following the fruit harvest and put in the garbage not composted since the spores will be produced in the compost.

Fungus control: Neem oil spray at 1 oz. per 1 gallon of water is a good control if sprayed weekly before bloom and after bloom. Horticultural oil is also a good control. Backpack sprayers are recommended especially for larger orchards.

Pear leaf blister mite can be controlled with malathion. This pest is established here and is difficult to treat. Small red spots are observed on the upper leaf surface and on the leaf bottom tiny raised areas with a hole in the center can be observed using a hand lens.

Watch for pear trellis rust. Orange lesions are obvious on the leaves. Pick the leaves off and dispose in the garbage.

Pseudomonas syringae syringze causes *blossom blast* and bacterial canker symptoms. Copper applied just before total leaf drop and again in late dormant may suppress organism.

To control leaf rollers and caterpillars, spray with BT – bacillus thuringiensis.

When *grafting multi-fruit trees* some varieties of apples and plums may be more vigorous and may dominate. Grafting multi-fruit varieties on pear is generally not a problem.

Weed block is an effective weed control and mulch may be applied 5” – 6” deep, leaving the trunk free of mulch.

Overwatering can cause root rot resulting in anaerobic conditions.

Do not spray beneficial insects: parasitic wasps, lady bugs, lace wings. They help maintain balance.

Planting phacelia seems to control aphids (mechanism unknown).

Ant Control: Tanglefoot is effective. Apply a paper tree wrap on the trunk and apply Tanglefoot over the wrap. Wear gloves and don’t get it on the trunk.

Curly top virus – leaves tend to curl. Blossoms won’t set fruit. Leaf hopper spreads the virus to tomatoes, peppers, squash, melons, and cukes. Infection results in stunted plants and greatly reduced production.

Blueberry shock virus – this pollen born virus is transmitted by bees. It is more common than blueberry scorch virus. Shock may kill entire stalks or plants but generally if cut off they will regrow and regain production. *Blueberry scorch virus* is transmitted by aphids. If plants show symptoms in the second year, remove them. Control aphids.

WCFS OFFICERS AND BOARD MEMBERS

President	Ron Weston ronweston09@comcast.net
Vice President	Vacant
Secretary	Vacant
Treasurer	Jerry Gehrke bercogehrke@comcast.net
Directors	
2017	Bill Horn hornbill66@msn.com Patti Gotz plsgotz@comcast.net
2018	Steve Vause Svause@teleport.com Elizabeth Vogt eavogt@comcast.net
2019	Jackie Furrey Jackie_furrey1@yahoo.com Randy Lee randyrlee3@yahoo.com

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	Mike Ewanciw mikewan@aol.com
Snohomish County	Bekie Jackson snohomishcfs@gmail.com
South Sound	Ian Stoner ianstoner2@gmail.com
Tahoma	Terry Tomlinson terryatmarys@comcast.net
Vashon Island	Charon Scott-Goldman Charon@centurytel.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

Goverment 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

* * * * *