

the BeeLine

Spring 2017

Newsletter of the Western Cascade Fruit Society



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2017 Urban Forest Symposium: Equity and the Urban Forest

May 23, 9:00am to 6:00pm. University of Washington Botanic Gardens, Center for Urban Horticulture: 3501 NE 41st St., Seattle, WA 98105

The 9th annual Urban Forest Symposium will explore the intersection of social justice and urban forestry. Attendees will hear from arborists and environmental stewardship organizations who are working to engage and serve diverse audiences. Urban forestry professionals and community organization leaders will discuss strategies to increase opportunities for communities of color and low-income communities to receive the benefits of urban forestry. Learn about tools you can use to apply an equity lens to your hiring, training, communications and engagement. Come to ask questions, to hear your colleagues' stories of how their equity work looks and feels, and to develop a more informed perspective on the importance of equity within the field of urban forestry. The symposium will begin at 9am and carry on until 4pm, with a reception to follow, 4-6pm. For any queries, please contact: urbhort@uw.edu / 206-685-8033

Stephen Bramwell on a needs assessment for South Sound Farms

SSFS, May 2, 7-9pm Grub Farmhouse, 2016 Elliott Ave., N.W., Olympia, 98502

Note: change of venue. Eastside Farm and Garden Center is remodeling meeting room.

WSU Cider Courses Announcement April 2017

The WSU Mount Vernon NWREC will be hosting two cider workshops later this month and there are a few open spots for registration. Cider & Perry Production – A Foundation will be offered 24th – April 28th and is a hands-on course covering the production, chemistry, microbiology, sensory evaluation, and business of cider. Immediately following, Cider Apple Orchardling will be taught on Saturday April 29th.

cider.wsu.edu Questions? Bri Ewing, Clinical Assistant Professor, Food and Fermentation Specialist, WSU Mount Vernon NWREC, Work: 360.416.5208, Cell: 530.383.9640.

City Fruit announces: 2017 Orchard & Harvest Tour-- September 9th, 10:00am to 3:00pm Save the Date!

Join us on September 9th 2017 for the 3rd Annual Orchard & Harvest Tour with new events, exciting activities and opportunities to learn more about the fruit growing in your neighborhood backyard. info@cityfruit.org

(360) 602-1778, 500 Aurora Ave N. , Suite 204, Seattle, WA 98109



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

Goodbye Chlorine...Hello Steam



An inexpensive steam-cleaner designed to remove wallpaper and clean outdoor grills, kitchen counters, and other household surfaces, can remove *E. coli*, *Salmonella*, and *Listeria* from cantaloupes and other produce more effectively than current washes and chlorine treatments.

Twenty-four cantaloupes were inoculated with *E. coli*, *Salmonella*, and *Listeria* strains, then dried and refrigerated at 41° F for 7 days. A commercial steamer then steam-cleaned the cantaloupes by sweeping the spray nozzle across the fruit for 3 minutes. The nozzle was placed 3 inches from the cantaloupes, producing 154°F steam at the contact point. The temperature was hot enough to kill surface pathogens but not damage the fruit. A 915 Wagner Power Steamer was used, though any steamer generating the same heat would likely produce similar results.

Some cantaloupes were cut up immediately after being steamed. Others were stored for 7 days at 41°F and then cut up.

The steam treatment was effective at killing the pathogens. The levels were about 1,000 times lower on the surfaces of steam-treated melons by 99.9% and were undetectable on cut-up pieces. Surface pathogen levels were about 100 times lower than those found on cantaloupes sanitized with chlorine.

Cut up melon pieces showed no softening, discoloration, or unwanted odors, either right after the treatment or up to 7 days later. Treated melons were refrigerated for 29 days to check for abnormal ripening, decay, and defects but none were found.

This technique can be used to sanitize watermelons, honeydew melons, cucumbers and baby carrots.

Consumers are unlikely to start “steam-cleaning” their produce, but the technique could be used to sanitize produce without significantly adding to food processing costs.

Adapted from the *International Journal of Food Microbiology* – 2016

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Try some of these Innovative Cantaloupe Recipes

<http://allrecipes.com/recipes/14366/fruits-and-vegetables/fruits/melons/cantaloupes/>

Submitted by Judi Stewart

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Growing Cantaloupe Melons

It may be challenging but growing cantaloupe melons in our area is definitely doable. If you can grow tomatoes under cover, you can grow cantaloupe.

Look for short season melon seeds. Be aware that melons can take more time to ripen than the seed packets state. Start melon seeds indoors in large deep pots in early to mid-April. Cover the seeds with ½ to 1 inch of fine rich soil. Water with room temperature warm water. Water well, but infrequently.

Start to prepare the melon bed after you plant your seeds. Melons need space and well-drained fertile soil, rich in organic matter. Amend your soil with 4 to 6 inches of compost or well rotted manure. Moisten the soil and warm it up quickly before transplanting by covering the soil with black landscape fabric, clear or black plastic mulches, or row or garden covers. Melons prefer soil of *at least* 60 degrees and a pH between 6 and 6.5.

A drip system should be set up under the fabric or plastic before setting the transplants. Do not use overhead watering on cantaloupe leaves which can spread disease. When transplants have four to seven leaves, carefully transplant them outdoors in deep holes. Cut through the landscape fabric or plastic mulch and set transplants 24 to 36 inches apart in rows 5 feet wide. Do this in May through June, taking care not to disturb the plant’s roots. Melons are sensitive to root disturbance and growth will be slowed if transplants are not properly managed.

Modify the plant’s climate. This is one crop that really needs higher temperatures. Put a low cloche system over the plants. If you think you’ll need additional heat, put a PVC hoop house over the cloche system. It’s almost impossible to overheat them.

Melons are very thirsty plants. They need more water during their main growing season, about 1 to 2 inches per week. Once the fruits are sizing up, it’s a good idea to cut the water by half. This prevents fruit splitting and also concentrates the flavor. Too much water dilutes the sweetness.

These plants are fast growing and require feeding at planting time and throughout the growing season. Fertilize well for top quality and yield. It’s always hard to remove the baby fruit, but anything that’s not baseball size by mid-August will probably not ripen - they’re just going to be removing nutrients that otherwise could go to the larger fruit. Remove any small fruit and flowers after this date.

Cont. on page 3



From page 2. Cantaloupes

As the fruits begin to ripen, place them on the top of a turned-over coffee can or small pieces of board so they're off the ground and the underside doesn't start to rot. Cantaloupes are generally ripe at "half slip". That means when you can separate the melon from the stem with little force. Cantaloupes when ripening have a musky odor that becomes more noticeable as you get closer. They require 35-45 days to mature from flowering, depending on the temperature.

Try not to move the vines as the plants grow, even to weed. Disturbing the vines can interrupt the flow of nutrients which increases the risk that the melons will ripen on one side and stay green on the other side.

Avoid all plant stress during the growing season to maintain high sugars. A few varieties have different rules for ripeness, so be sure to read what the seed catalog has to say.

Mount Vernon WSU Professor and Extension Specialist suggested short season melons grown under cover as a specialty crop for our area. I'm taking that suggestion this year.

Judi Stewart

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~ The Taylor's Gold pear tree finally produced fruit this season. This is a gold russeted pear, a Comice mutation, a bit smaller than Comice. The pear is not only lovely to look at hanging on the tree, but has a wonderful taste with fine melting flesh. Though it doesn't russet well in eastern Washington, it russets very well in our area. I picked a few pears and left some on the tree to sample. Those left on the tree were firm, sweet and crisp, similar in texture to an Asian pear. Taylor's Gold's production reputation is listed as hit or miss. Where it was more popular five or so years ago, you'd now be hard pressed to find it at a nursery.

Judi Stewart, WCFS

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How to Graft Tomatoes

Perdue Agriculture Center

It looks so easy.

<https://www.youtube.com/watch?v=7Ufx66lsf88&feature=youtu.be>

Submitted by Judi Stewart, WCFS

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BeeLine Archives

I'm indexing the old issues of the BeeLine and found a four page gap in one issue. I'd like to put out a request for this issue if anyone still has it in hard copy in the next BeeLine. The amusing thing is that my husband wrote an article for that issue and the missing pages include part of his article. It's the 2004 Summer issue.

Patti Gotz., pls.gotz@gmail.com

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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

Growing lemons and limes

<https://www.youtube.com/watch?v=XX-R8sq6-vg>

Submitted by Judi Stewart

The Spring 2017 BeeLine was produced by Gathering Editor Marilyn Couture, with input from membership. Please contribute your articles for our next Summer issue!

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

Email your articles to: couture222@msn.com
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Burr Knots on Apple Trees

Cooperative Extension, U. Minnesota, August 23, 2011

Burr knots are root initials that appear on the aboveground portion of the apple tree trunk. Some rootstocks, such as M.7, M.9, M.26, MM.106, and MM.111, are more prone to developing burr knots than others. Conditions that favor burr knot development include low light, high humidity, and temperatures between 68°F and 95°F.

Burr knots are problematic in a couple of ways. They can be an entry point for organisms, such as dogwood and plum borers, woolly apple aphids, fire blight bacteria, and wood-rotting fungi. A tree with a heavy fruit load and many burr knots may produce weak growth or break during windy conditions.

Selection of a rootstock that does not produce burr knots is the best method of control. Painting Gallex® on burr knots aids in callus formation, or healing of the tissue; however, Gallex® may be difficult to obtain for small plantings of trees. Tree guards or tubes that encircle the trunk are not recommended as they provide shelter for insects and enhance environmental conditions favoring burr knot development. If soil is mounded to cover burr knots on the trunk, the dwarfing effect on the tree will be lost.

<http://articles.extension.org/pages/60605/burr-knots-on-apple-trees>

Submitted by Jean Williams, PFC.

Example of burr Knots on an Apple Tree
Photos by Emily Hoover, U. Minnesota.



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WCFS Spring Board and General Membership Meeting

President Ron Weston conducted the WCFS Spring Board Meeting March 18 in Olympia, at the Eastside Urban Farm & Garden Center and hosted by SSFS.

Randy Lee proposed a major joint event involving all chapters in mid 2018 with a possible venue at Highline College. Seattle and Snohomish are interested.

Marilyn Couture was nominated for a Life Membership as presented by OOS.

Research Grant Committee asked for approval of the ongoing adara interstem project in its fifth and final year of funding. Motion approved. A request from Oregon State University researcher for the analysis of Haskop berries nutritional content was not approved.

June 10, 2017, 10:00am is set for WCFS Board meeting via teleconference.

General Membership Meeting convened immediately following the adjournment of the WCFS Board meeting.

Life Membership for Marilyn Couture was unanimously approved.

Election of Officers and Directors. Carlyn Syvanen volunteered to serve as Secretary. Patti Gotz and Bill Horn agreed to "reenlist".

Slate of candidates: Ron Weston, President; Jerry Gehrke, Treasurer; Carlyn Syvanen, Secretary; Patti Gotz, Director (2020); and Bill Horn, Director (2020) was unanimously approved.

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Hey! You've got to watch Fruit Tube with Dave Wilson's Nursery of Modesto, CA

Backyard Fruit Tree Basics.

Backyard Orchard Demo, watch high density backyard style. Topics include managing tree size, successive ripening fruits, dealing with poor draining soil, mulching and more.

<https://www.youtube.com/user/DaveWilsonTrees>

Dave Wilson Nursery is the largest wholesale grower of fruit trees for the home garden in the United States.

Marilyn Couture, BeeLine Gathering Editor

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Marlene Falkenbury, a STFS founding member and past President by Lori Brakken, 2014

"Gardening is one of those wonderful aspects of life that levels everyone. It doesn't matter what your income is or your status; you're just there to garden!" - Marlene Falkenbury

When Marlene's kids grew up and flew-the-nest she took to traveling with her husband, Ormond, until he passed away in 1970. She loves to tell stories of Hawaii and talk about the paintings on her walls from Morocco. While we talked, I spied what looked to be a camel saddle against the wall in the living room.

Marlene is known by fellow gardeners as having the longest history at the Picardo Farm P-Patch. In 1973, the first Seattle P-Patch ('P' after Picardo farms) was formed at the Picardo site, out of a series of events that Marlene played a part in. In 1970, Marlene helped as the Wedgewood Elementary school farmed produce for local food banks at the leased Picardo farm site and she has been gardening there ever since.

Marlene graduated as a King County Master Gardener in 1976. Through that training, she met Sharon Collman (Extension Agent & instructor), Emory Leland, Ciscoe Morris, and many other well-known active horticultural people in the Pacific Northwest area. She has been a member of the King County Master Gardeners and was active in the Phone Clinic, Diagnosticians, U-Village Plant Clinic, and as a leader at the Wedgewood Demonstration Project. Marlene helped gardeners get the space to grow crops and then would help them with many special projects.

An announcement in the local weekly newspaper gave Marlene's address as the meeting place on January 23, 1985, for a presentation on "growing fruit that does well in the Pacific Northwest". It was expected that 15-20 people would show up. When over forty people (including Monte & Hildegard Hendrickson) showed up, Marlene had to go to neighbors to borrow more chairs! That was the start of the STFS. Emory Leland, whose idea it was in the first place, became President of the new Seattle Tree Fruit Society. Four years later, in 1989, Marlene became President.

Marlene enjoyed fieldtrips up to see and learn from Bob Norton and Gary Moulton at the Mt Vernon WSU orchards. She was the first person many people met when they attended STFS meetings. She would take careful notes at the meetings and put them in the newsletter so that members could go over this information for future success in the orchard. As a President, she was always interested in what people were growing and asking about. At STFS events, when open volunteer time slots did not fill, Marlene filled in and enjoyed herself. She has already volunteered to help for next year's Flower & Garden Show booth.

Now Marlene is a great-grandmother of 2, grandmother of 6, and mother of 3. She excels at growing veggies and is a good cook as well. She has long been active in the downtown Plymouth Congregational Church, bringing flowers to arrange for Sundays and keeping an eye on the plantings. She also maintains an interest in political goings on and is usually up for an astute comment. For many years she has been active in the Seattle Milk Fund, Seattle's 2nd oldest charity (1904) – now giving food to those in need & scholarships to 25-28 girls to Community Colleges locally.

This summer, Marlene plans to plant 2 new apple trees, be more attentive to her figs, grow lots of veggies, and hand out lots of interesting vegetable seed packets at the P-Patch. She'll be taking a trip to her birthplace in celebration of its 100th Anniversary – Winifred, MT.

"She may be small in stature, but one I always look up to for her knowledge, dedication and just being a genuine great person." - Al Habbestad

Thank you, Marlene, for the Interview, for your time guiding the STFS, and giving your 'All' to the community of Seattle. Thank you for the emails about Marlene to Al Habbestad, Elaine Anderson, Marilyn Tilbury, Sharon J. Collman, Carole Blakey, Teri Stephens, Hildegard Hendrickson, and Sandra Bowman. Thank you Doris Leavens for giving me the push to do this article on Marlene.

<http://www.seattle.gov/neighborhoods/ppatch/aboutPpatch.htm>



Marlene Falkenbury passed away February 2017

Why Graft Fruit and Nut Trees?

Richard Fahey, 588 Turner Road, Oxford, NY
Pomona 2017 Nafex

Fruit tree grafting is a simple skill that almost all farmers knew a hundred years ago. Yet today, when I attend fruit and nut tree meetings, I am surprised that only about 10% of the attendees have successfully grafted. Perhaps the 90% have more money to purchase grafted trees than time to learn the skills. But it really only takes less than an hour to learn! So why should you learn to graft fruit and nut trees? Here are ten reasons:

1. The first and most obvious reason to graft is that seedling trees yield inferior fruits and nuts. Grafting an Emma K black walnut to a seedling tree will give you three times as much nut meat per nut and will crack out three times faster in whole halves. Likewise, grafting Priscilla apple on a seedling will give you reliable annual crops that are tasty and disease resistant, while the seedling apple tree may bear scabby little apples, and those only every five years. The chances of a seedling being as good as a grafted variety are something a hundred thousand to one!
2. Grafting is cheap. Grafted trees from a nursery run somewhere around \$25 each. Your do-it-yourself tree may cost from a few cents to \$5-\$6.
3. Grafting also allows you to change inferior fruit trees you may have planted. Most of the popular supermarket apples don't do as well as home orchard trees, but with grafting you can top work them to better varieties.
4. Most of the time there is no other way to get rare fruit that may do well in your area. Heritage apples that were mainstays of local 19th- to 20th-century homesteads will still perform well where they performed well before.
5. Grafting preserves your own discoveries! Plums, peaches, apples, walnuts, and many other fruits and nuts come up wild in backyards, around parking lots, and in abandoned fields. When you find a good variety, you can take scion wood home, graft it, and name it!
6. Trees make great gifts that keep on giving. Birthdays, weddings, anniversaries, or welcoming a new neighbor are all occasions to give the gift of a grafted tree.
7. Start a backyard nursery and sell trees! Young apple trees need only a foot of space. You can grow a hundred trees for sale in a 15' x 15' garden plot. Or you can plant them in pots, if you have only concrete surrounding you. You can sell them to friends (especially after they have tasted your superior fruit), at farmers' markets, to nurseries, and at Arbor Day activities, to name a few.

8. Teaching children is another reason to graft. Children are usually very interested, and can often pick up grafting quicker than adults. Children will watch their trees grow as they grow.
9. Grow the best apples for cider! Cider apples possess combinations of sweet, tart, bitter and aromatic properties. Renowned cider varieties like Cup o' Liberty, Chestnut Crab, Chisel Jersey, Foxwhelp, Hewes, Kingston Black, Medaille d'Or, Ribston Pippin, Salem Cider, and Yarrowton Mill are often only available as scionwood.
10. Graft out of benevolence. Moving? Leave some fruit trees behind for the next owners. Have some wild fruit trees coming up on nearby vacant land? Graft them for children to delight in and to feed the wildlife. Plant trees in local parks, at your church or on the school grounds.

Take the time now to learn this simple skill that will literally make your lifetime more fruitful.

* * * * *

Oregon Dept. of Agriculture

ODA Biennial Report, January 2017

From Insect Pest Prevention and Management Program:

Trapped three additional light brown apple moths (LBAM) near Independence in Polk County. This is a clear indicator of an established LBAM population at this site, which is the first documented established LBAM population outside of California. LBAM is a major quarantine issue.

Identified a record-high 25 new exotic species in 2015-16. Several are new to North America, the US, or to Oregon. This indicates the increasing risk of invasives and trade.

Among the new invasive species: the Asian jumping worm, *Amyntas gracilis*. This earthworm was reported in several counties in western Oregon and was likely introduced to and spread in Oregon through compost material. The Asian jumping worm is commercially available in many states and well established in the eastern US. Adverse ecological impacts are being reported from areas with established populations.

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Don't invest in unwanted shoot growth

Young trees can benefit from pruning in the summer. *by Bas van den Ende, a tree fruit consultant in Australia's Goulburn Valley*

With spring approaching in the Northern Hemisphere, a new season for orchardists starts with flowers, new leaves and shoots — and much anxiety.

Newly planted and young trees are encouraged to make as much growth as possible to fill their spaces quickly and start producing fruit.

Young trees can produce an abundance of new shoots. Some shoots are stronger than others, some have different angles than others, and some compete with the main leaders. Pruning some of the excess growth is necessary to keep the trees open and keep the right shape and balance.

The question is: What is the best time to do this pruning? The time of year that you prune all trees makes a huge difference in how the trees respond to the pruning.

Summer

In summer, roots and top (the part that grows above the ground) grow in harmony; it's called the allometric relationship between the roots and the top. This simple, universal equation applies to all plants. The roots need the top, and the top needs the roots. But ultimately, the roots control the top. That's why we like to use size-controlling rootstocks (if available).

In summer, the leaves produce photosynthates, the "building blocks" for growth, in the form of carbohydrates, while the roots take up water and nutrients necessary for the "factory" to produce these building blocks. Leaves and roots also produce hormones, which are chemical compounds produced in minute amounts in one part of the tree and transported to another part where they trigger a response.

In summer, you can influence growth where you want it by removing superfluous shoot growth. The tree will redirect its growth when and where you want it to go. This is called summer pruning and can mean delay-heading shoots, tipping or stubbing new shoots, or removing new shoots entirely.

Summer pruning maximizes canopy growth and provides the type of wood that makes trees productive quickly and does not cause harmful internal shading.

Winter

Pruning young trees in winter, however, totally changes the tree's responses from pruning in summer.

In winter, trees rest. The amount of roots and the amount of shoots have been determined. You might not like what you see if you pruned young trees in winter. Putting up with excessive shoot growth is not only expensive, the tree does not like you to remove it and will fight you until the roots have re-established the relationship with the top. The tree will often do this with more excessive shoot growth, especially in the top, where many heading cuts have been made.

It really does not make horticultural sense to prune young trees in winter, and then remove much of the shoots, only to repeat the practice next winter.

When trees reach their maximum permissible height, do not head them in winter, but wait and make the heading cuts in late spring. This is called delay-heading and the trees cannot respond as they do when you head in winter. It is all a matter of timing.

If you are not yet convinced, the pictures in Good Fruit Grower, March 15, 2017, may change your thinking and the time of pruning.

* * * * *

Pruning figs in a Cool Climate

Submitted by Judi Stewart, WCFS

https://www.youtube.com/watch?v=RB0D_tuKgtQ

Chuck Polance, Tahoma, comments: Thanks, Judi! Yes, I've seen this fig video. It's one of the best. I'll bet the tree grew 30' tall before it was butchered down to 6'. Apical dominance took over. Now the multiple branches are low and the 400-figs a year are reachable!!

* * * * *

What wildflowers are best to attract bees?

How busy are your bees? Good Fruit Grower,
March 15, 2017//Pollination//Research

Michigan State University pollination study reveals best attractants for bees that you may want to plant near your trees.

Numerous reports have documented declines in pollinators, especially bees, that are vital for orchards and other agricultural lands.

New research from Michigan State University is helping growers understand how to use wildflowers to help boost the numbers of these all-important insects on their acreage.

One major reason for the drop in pollinators is changing land use, according to Rufus Isaacs, professor in MSU's Department of Entomology. Intensive farming practices over the last decade have "pushed agriculture out to the edges of fields and minimized the amount of habitat" available for wild bees and other pollinating insects, as well as natural enemies for pest control, he said.

A current project is evaluating options for plantings on farms that will return resources to support beneficial insects, he said. "What we're trying to do in this research is to find out which plants are more rewarding for those pollinators and natural enemies, which ones will survive in Michigan soils and climates, and which ones we can integrate into plantings to support these insects," he said.

Building on suggestions from the Michigan Native Plant Producers Association and his earlier work on native Michigan plants that promote beneficial insects, Isaacs (along with MSU entomologist Doug Landis) set out to explore optimal mixtures of plants that would provide pollen and nectar for beneficial insects from spring to fall, would be tailored to match the needs of tree fruit, blueberry and other growers, and would be easy to grow under different conditions, including the sandy, dry soils that dominate in many areas of the state.

Honeybees, for instance, prefer a number of the nectar-rich plants, while most of the wild bees that are important for fruit crop pollination are primarily after pollen, he said.

"We're definitely seeing some differences there, which would suggest that you could design mixes for one kind of bee versus another kind of bee."

Based on data collected by Rowe in 2015 and 2016, there are clear winners during the early, middle and late growing season. Among May- and June-blooming plants, the three top plant varieties for native bees are: hairy penstemon or beardtongue (*Penstemon hirsutus*); lance-leaved coreopsis (*Coreopsis lanceolata*), and yarrow (*Achillea millefolium*). Honeybees also were frequent visitors to hairy penstemon and lance-leaved coreopsis, but not to yarrow.

Midsummer plants that were popular to native bees and honeybees included: wild bergamot or bee balm (*Monarda fistulosa*); mountain mint (*Pycnanthemum incanum*); gray goldenrod (*Solidago nemoralis*); early goldenrod (*Solidago juncea*); and whorled milkweed (*Asclepias verticillata*). Isaacs' group also included plots of spotted knapweed (*Centaurea stoebe*) in the study.

Although it is a nonnative and invasive plant, beekeepers have come to rely on this purple-flowered plant for honey production (often sold as "star thistle honey").

He noted, "We did see some honeybees on knapweed test plots, but those plants were smaller, and there were more attracted to the mountain mint and the milkweed test plots that were in bloom at the same time."

By far, the top plant among late-season varieties (late August through fall) was showy goldenrod (*Solidago speciosa*). "It was extremely attractive to native bees and honeybees. It also grew well and produced a good floral display, so part of what you're seeing is a reflection of the sheer abundance of flowers," he said.

Others that did well for all bees in the late season were: rosinweed (*Silphium integrifolium*); tall coreopsis (*Coreopsis tripteris*); stiff goldenrod (*Solidago rigida*); pale-leaved sunflower (*Helianthus strumosus*); silky aster (*Symphotrichum sericeum*); sky-blue aster (*Symphotrichum oolentangiense*); and New England aster (*Symphotrichum novae-angliae*).

Cont. on page 9



From page 8. Pollination

While growers can certainly review the full list (available online at www.nativeplants.msu.edu) and select the plants that will work best for their needs and growing conditions, Isaacs hopes seed companies will use the results to make it even simpler. “The idea is to design a mixture of plants to support the kinds of good bugs you’re after,” he said.

The grower can choose a mix of proven perennials that make sense for the specific orchard or field, sow the seed and reap the rewards when the insects stream into the orchards and crops once the wildflower plantings are established.

“The summer flowers help to keep bee colonies growing, which generates more queens in the fall, and hopefully more colonies the following spring. It’s all about creating the resource through the summer so these bees are more healthy and abundant next spring when the crop comes back into flower,” he said. “With these wildflower plantings, it’s really like providing a buffet for all those beneficial insects.”

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Hand-Pollination With Cotton Swab

Lester H. Davis Lhdavis8@knology.net, Pomona 2017

I’ve been crossing, backcrossing and selfing three species of *Asimina* (paw paws) for several years. Until the spring of 2016 I had been using a brush, and daubing pollen from one flower and transferring it to a flower on another tree. Late in the flowering season of 2016 I took a cotton swab and got about a foot away from a flower with pollen and loaded the cotton swab with the yellow material. I then went to another species and, being very close to the stigma, I applied the pollen. Immediately the stigma became very sticky; again a small amount of pollen was applied. The stigma began to swell and in one or two seconds, so did the pollen tube leading down into the base of the flower. I marked all the flowers so crossed and after two days none of these flowers aborted, whereas most of the unpollinated flowers aborted. After two days, the petals could be removed and several ovaries could be seen at the bases of the flowers. Most all of these flowers produced viable seeds which will be planted this spring. I have read how pollination takes place but had never seen. If you have paw paws or maybe any other plants that you cross, try using a cotton swab. Watch very closely, and see if you don’t see the stigma begin to swell. You should get a better fruit set.

Pruning Apple Trees

Tree Fruit Horticulturist Dano Matesic
Phone 724-503-2954

The following are the key things you need to keep in mind to effectively prune apple trees for fruit production:

1. *Sunlight* To put more fruit on your trees, prune to open them up so direct sunlight hits all the leaves on the tree.

2. *Producing fruit buds* Most new apple fruit buds are produced on small, short, side shoots. These small shoots grow one inch to a few inches long in the first year, and produce a fruit bud the next year. In the year after that, the fruit bud produces flowers and, hopefully, fruit. These small fruiting branches are called fruit spurs.

3. *Apical dominance* This is the control exerted by the apical—topmost—bud of a shoot over the growth of the buds below it. The apical bud produces plant hormones that flow downward inside the shoot, suppressing the growth of the lower buds. The growth of trees can be decreased or increased by various types of pruning and bending branches to control apical dominance.

4. *Controlling apical dominance* to produce more fruit spurs Apical dominance is strongest in vertical shoots, and these fast-growing vertical shoots do not form many fruit spurs. Bending upright shoots to 30-60 degrees from horizontal, or pruning out the upright branches leaving branches at this angle, weakens apical dominance and more side shoots will grow and develop into fruit spurs.

5. *When to prune your apple trees:*

a. *Dormant season pruning:* Pruning fruit trees during the dormant season—i.e., when the leaves are off the tree—has a stimulating effect on the tree. If your trees are large and overgrown, this is the time of year to remove some branches to increase sunlight penetration throughout the tree. All large branch removal should be done at this time of the year.

b. *Summer pruning:* Pruning during the summer slows tree growth, the opposite of dormant season pruning. This type of pruning results in weak re-growth that often produces fruit buds one or two years later. The most common summer pruning technique is to cut vertical shoots over 6” long back to 5 leaves, or 5 buds, in late July. Summer pruning will control trees that are growing too fast.

6. *When to bend branches to produce more fruit buds* The month of April is the best time to bend branches that are too upright down to between 30° and 60° degrees from horizontal. If you tie them down firmly for about 6 weeks, they will stay at that angle. April is also the month when the small side branches that become fruit spurs start to develop.

Pomona Spring 2017, Nafex

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MANY PROBLEMS ARE BURIED BY DIGGING IN THE SOIL

Oregon Wine Research Institute The sky is falling! (Well, maybe not.)

Jay W. Pscheidt, Ph.D. Professor of Botany and Plant Pathology and Extension Plant Pathology Specialist, Oregon State University

The new Compendium of Grape Diseases, Disorders and Pests (Wilcox et al 2015) points out the multitude of problems that can beset grapes. Oregon's grape industry has done well to avoid many of these troubles using geographic isolation, unique climate conditions and planting stock quarantines. Grapes are still susceptible to all these problems, which could arrive and cause havoc on any growing season. When one of these problems does come along, we may sound a lot like "Chicken Little" declaring that the sky is falling. Several disease issues have fallen onto our doorstep that need to be discussed. Although some are very serious and not unexpected, all can be dealt with. These issues include *Xylella*, sterilizing pruners, fungicide resistance and climate change, which we will address throughout the season.

Xylella

In October, 2015, the presence of the bacterium *Xylella fastidiosa* was confirmed by the Oregon Department of Agriculture (ODA) in several pear trees growing in the field germplasm collection at the USDA Repository in Corvallis. Grape growers may be alarmed knowing that Pierce's Disease is caused by *Xylella fastidiosa* subsp. *fastidiosa*. Pierce's Disease has been a high-profile and rapidly increasing disease in California and other southern states but has not been known to be in the Pacific Northwest. At this time, the preliminary DNA sequence data suggests the bacterium on pear is *X. fastidiosa* subsp. *multiplex*, which can cause a chronic leaf-scorching disease in many different species of woody landscape shrubs and shade trees, including oak, elm, and other trees – but not grape. (Whooh!)

There are still a ton of questions that need to be answered in the coming months and years about this find. Keep half an ear open on this problem.

Why don't find Pierce's Disease in the Pacific Northwest? Our climate may be too cold for the pathogen to survive. Infected grapevines do not retain the pathogen after a cold dormant season typical of continental climates. Also the majority of leaf hoppers (xylem feeding insects that vector the bacterium) found in PNW surveys are Western grape leafhopper which are not efficient vectors of *Xylella*. The Blue-green sharpshooter will vector *Xylella* and has been found in the Willamette Valley, Columbia Gorge, Medford and Milton-Freewater areas of Oregon. This leafhopper is usually found in surrounding vegetation but less in vineyards. The glassy winged sharpshooter, a very efficient vector, has not been found in or around Oregon vineyards nor is it abundant in the PNW.

If you are still worried, you can keep an eye out for various symptoms. Pierce's Disease first appears as water stress in midsummer and gradually gets worse. Leaves become slightly yellow or red along margins in white and red varieties, respectively, and eventually leaf margins dry or die in concentric zones. Fruit clusters shrivel or raisin. Dried leaves fall, leaving the petiole attached to the cane. Wood on new canes matures irregularly, producing patches of green, surrounded by mature brown bark. 'Pinot Noir' and 'Cabernet Sauvignon' have highly regular zones of progressive marginal discoloration and drying on blades. Unfortunately, any other problem that blocks, inhibits or limits water from getting to the leaves will produce similar symptoms. Fungal cankers, damaged trunks, girdling roots, gopher damage, herbicide injury and root rots also can produce similar symptoms.

Bottom Line: Finding *Xylella* on pears in Oregon is not, at this time, a worry for grape growers.

Reference: Wilcox, W. F., Gubler, W. D. and Uyemoto, J. K. 2015. Compendium of grape diseases, disorders, and pests. Second edition. St. Paul, MN: APS Press.

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Rubus Idaeus Himbo Top™ Raspberry

Submitted by Judi Stewart, WCFS

Himbo Top™ - An Elite Raspberry for Our Climate Introduced in 2008, Himbo Top™ is an everbearing bright red raspberry with excellent flavor. This is a Swiss cross of Autumn Bliss and Rafzeter (Himbo Queen). The plant produces very long drooping fruiting laterals and the berries are easily detachable. You can cut back the tops in the early stage of growth to produce more laterals. If topped, this raspberry grows like a shrub, about 6 feet tall and 4 feet wide, making trellising a must. The plant will grow taller if not topped. Himbo Top™ yields are about 50% greater than other raspberries. Growers claim its aroma is decidedly intensive raspberry.

Harvest begins mid-season and lasts for 6 to 8 weeks. The berries hold their shape when frozen. Plants need to be deprived of water for two days before picking in order to harden the fruit. Himbo Top™ is also resistant to *Phytophthora*. Trials show this raspberry can live for up to 10 years. Himbo Top™ is a registered trade mark of Promo-Fruit Ltd. which has other fruit in the pipeline.

Available at Starkbros.com.

Another review : What a name! No matter what the name, Himbo Top™ seems destined to become your edible garden favorite for loads of reasons.

First, it's an improved everbearing variety meaning that it bears up to 2 weeks earlier than old school everbearers like 'Heritage' making far better for higher yields in cooler northern areas where early frost can wreak havoc with a fall berry harvest.

Second, the berries look like they on steroids with huge size and bright red color along with strong skin which make them far more resistant to bruising when picking.

Third, the flavor is outstanding making it great for using fresh or in jams, jellies or preserves.

Fourth, it is a heavy yielding plant producing a big harvest that will give you your fill of berries and more!

Finally, since Himbo Top™ fruits heavily on new wood, you can prune the plant vigorously each year and avoid some of the plant diseases that can overwinter on lesser selections. Overall, despite the crazy name, Himbo Top™ has the goods to be your favorite Red Raspberry!

Look at the yield and berry size in this short Russian video of Himbo Top™.

https://www.youtube.com/watch?v=_X-T9GT1VgM

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Note re: Promo-Fruit is also the developer of Beni Shogun® and Rubinette® apples. Crossing Rubinette® with Redwinter apple, the company has produced the Red Boy® apple which stores longer and is sweeter than Rubinette®. Some, including me, think of Rubinette® as the best tasting apple. A sport of Rubinette® is a slightly redder Rubinette Rosso. ®

Judi Stewart, WCFS

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Leafhopper linked to little cherry disease

Researchers identify two leafhopper species as potential vectors for key pathogen associated with the disease.

Shannon Dininny, Good Fruit Grower, Mar 15, 2017

The growing incidence of little cherry disease in Pacific Northwest orchards prompted researchers to begin a project last year to survey leafhoppers that might be transmitting Western X, one of three pathogens associated with the disease.

Their goal: learn exactly which species of leafhopper, if any, might be transmitting the pathogen, as well as the leafhoppers' seasonal patterns of movement between affected orchards and alternate host plants, to ultimately begin to develop management strategies.

In the first year of the three-year project, the research turned up a couple of key findings. First, researchers discovered that two leafhopper vectors — *Colladonus geminatus* and *C. reductus* — were the most abundant species on sticky cards in cherry trees and in habitat outside the orchards. Molecular diagnostic testing results confirmed that both species can carry Western X phytoplasma.

“We suspect that these two species are the main culprits for spreading Western X,” according to Holly Ferguson, a WSU integrated pest management extension specialist.

Second, the research whittled the likely neighboring host plants to alfalfa and sage plants.

Timing also proved crucial. The positive samples for both species were primarily found in the orchard during two periods of time: early May and late July/early August.

2016 surveys

The 2016 leafhopper surveys in cherry producing regions yielded data in three Washington counties — Yakima, Grant and Benton — but not in the four blocks sampled in Chelan County. Very few leafhoppers were found there, and the researchers learned later that the sites had been subjected to insecticide sprays both pre- and post-harvest.

Researchers gathered 218 *C. geminatus* leafhopper samples and 168 *C. reductus* samples. Molecular diagnostic testing confirmed that both species can carry the Western X phytoplasma. While *C. geminatus* is known to be a vector of Western X in Washington, little is known about the vector status of *C. reductus*, requiring additional study. They also found cherry leafhopper, *Fieberiella florii*, in two locations.

That leafhopper species is particularly difficult to capture as it is nocturnal and is not attracted to yellow sticky cards. However, *Fieberiella florii* is a known, significant vector of Western X in California sweet cherries.

Of the *C. geminatus* samples, researchers found positive samples in the extra orchard habitat, such as alfalfa, sageland and roadside weeds, in late April, early May. Later in the season, Western X positive leafhoppers were discovered in the neighboring orchards.

Of the 168 *C. reductus* samples, researchers found a lot of positive samples in the springtime, both in the orchard and neighboring habitat, with an uptick of positive samples in late July/early August in the orchards.

Since most of the positive samples of these two species were collected in neighboring habitat in late April to early May, that suggests that springtime reservoirs of the pathogen are outside the orchard, Ferguson said. At the same time, the upsurge in positive samples later in the summer “may be explained by the simultaneous increase in Western X in the cherry trees at that time of year.” Late in the season, leafhopper abundance was comparatively low in extra orchard habitats.

Going forward

In 2017, the researchers will conduct leafhopper sampling from March to October in Western X affected cherry orchards in four Washington counties to determine leafhopper distribution by species and peak activity periods, and they will continue to identify host plants outside the orchard.

In addition, the researchers successfully established a *C. reductus* colony on celery seedlings in the first year of the study. They aim to use those leafhoppers for transmission studies in the laboratory. * * * *



The 18th Annual Salt Spring Island Apple Festival

Theme:

Go right to the Tree that Grows your FAVOURITE apple.

1) Apple Festival Website:

<http://saltspringmarket.com/salt-spring-island-apple-festival/>

Sunday, Oct 1, 2017

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Hewe's Crab or Hewes Crab was one of the biggest surprises for me. I've always heard what a great "cider" apple they are, so I assumed they'd be tannic, sour, and bitter – really inedible. NOPE, not exactly, not when they're fully ripe – well, they ARE tannic, sour, and bitter, but also SWEET, tart, spritely, crisp, and delicious – all at the same time; interesting and complex is the only way I know how to describe it. I personally would not care to take a big bite out of a Hewes, but I'd nibble on them all day long. If you put out a bowl of Hewes at a party, I'll guarantee they'll all be eaten. It's a MEMORABLE apple. I'll have to rank Hewes as one of my favorite eating apples, odd though that is. Some people won't like them at all; this is where individual preferences come in. When they turn soft and overripe they get mealy and that complexity leaves them. They're gorgeous-looking, too, yellow-orange with a lovely pinkish-red overlay – they look like clusters of loquats or apricots, beautiful. They can bear heavily, in clumps and clusters.
Pomona Spring 2017

The 'Hewe's Crab', also called 'Virginia Crab', 'Hughes's Crab' and 'Red Hughes', is a small-sized apple that was popular for cider making in the southern US in the 18th and 19th centuries and was grown at Monticello by Thomas Jefferson.

Marilyn Couture, Gathering Editor

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Your Own Garden of Eden For sale in SW Washington State, a 2.5-acre fruit variety orchard. Includes 300 apples, 100 pears, 30 asian pears, 200 grapevines, as well as smaller numbers of cherries, plums, pluots, quince, kiwi, hardy kiwi, blueberries, strawberries, and lingonberries. The seven-bedroom farmhouse built in 1983 is in very good condition. Small shop includes 7x13 walk-in cooler and irrigation system for orchard. Close to Portland, Oregon. \$440k.

Contact Bruce Kelley, PO Box 1774, Battle Ground, WA 98604. brucekelley55@gmail.com

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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

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