

## WCFS and Pacific Northwest 2012 Grafting Workshops

**Mar 6, Tues.** 7:00pm, **North Olympic Fruit Club**, will meet at Tri Area Community Center, Chimacum. Judi Stewart.

**Mar 6, Tues.** 6:00pm. **South Sound**, grafting and scion exchange at Evergreen's Organic Farmhouse, Francesca Ritson.

**Mar 6, Tues.** 6:00pm, **Vashon Island**, Land Trust Building, Bench Grafting by Mike Shannon. Scott Durkee.

**Mar. 10, Sat.** **Vashon Island**, Bench Grafting Workshop, Jackson Orchard with Mike Shannon and Bob Norton. Scott Durkee.

**Mar 17, Sat.** 10-4:00pm **Peninsula Fruit Club** will hold its annual Spring Grafting Show at the Silverdale Community Center at 9729 Silverdale Way NW in Silverdale. <http://wcfs.org/wp-content/uploads/2012GraftingFlyerRev3.ppt> Jean Williams.

**Mar. 24, Sat.** 9:00-11am **Olympic Orchard Society** Grafting Workshop at McComb Gardens, 751 McComb Rd, Sequim. Marilyn Couture.

**Mar 24 Sat**, 10-3:00, **STFS** Spring Fruit Show at Sky Nursery, 18528 Aurora Ave., North Shoreline. Note: WCFS Member Meeting. Lori Brakken.

**Mar 17, Sat.** 10-4:00pm, **Home Orchard Society** Spring Propagation Show and Scion Exchange. Clackamas County Fairground, Canby, OR. Rootstock for sale and hundreds of scions for grafting available free with price of entry.



Grafting scions

### Dwarfing rootstocks Grafting Tip

From a Wenatchee Orchard friend:  
On dwarfing rootstocks, such as B9, plant the graft union only two inches above the final ground height. Any higher tends to "runt out" the rootstock/scion combination.

Steve Butler PFC

### Inside:

NW Grafting Shows	p. 1
Norton's News	p. 3
New Chapter:	
Snohomish County	p. 5
Apple Stories	p. 6-7
Puyallup Wallop	p. 8
Pruning 1-2-3	p. 9-10
Rootstocks	p. 11-20
Chapter News	p. 20-22

www.wcfs.org



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

**(Acting) President's Column**

This year's annual meeting of the Western Cascade Fruit Society will be held in conjunction with the Seattle Tree Fruit Society's Spring Fruit Show at Sky Nursery in Shoreline on March 24<sup>th</sup>. I hope you will plan to be there. STFS always has an interesting program, and it will also be a chance to meet some like-minded fruit enthusiasts from around the Puget Sound region, including members of our soon to be newest Chapter: the Snohomish County Fruit Society. My thanks to Judi Stewart, President of the North Olympic Fruit Club, for her tireless efforts in getting this new Chapter up and running.

The buds on my apple trees are beginning to stir, triggering mixed emotions: joy at the knowledge of the beauty they foretell—and regret that I haven't attended to all of the weeding and preventive spraying that I had intended to accomplish by now. Well, I tell myself, at least I've gotten my pruning done. I guess that's the way things are for many of us...so much to do, and so many other demands on our time that pull us away from our chores in the orchard & garden. I suppose it is not much use lamenting the things left undone—hopefully we'll still muddle through! And, as I write this column, there is still time to correct many of those neglected chores—provided I get at them soon. Here's hoping that all of you are feeling mostly the joy, and none of those regrets as you greet the forthcoming blossoms in your own orchard.

Best wishes to you and your loved ones, and may all your endeavors in the orchard prove fruitful!

Ron Weston

**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© (3) Non-Profit organization WCFS is Parent organization to seven affiliated Chapters. WCFS provides 501© (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.

Dick Tilbury has suggested that each issue should contain a brief boilerplate section explaining what WCFS is, its founding date, purpose and functions. Editor welcomes your suggestions to improve this section.

---

# WCFS

**WCFS Annual Meeting Sunday, March 24,**  
**2:00pm.**

Seattle Tree Fruit Society is pleased to host the annual meeting for WCFS in conjunction with the STFS Spring Fruit Show March 24<sup>th</sup>, Saturday, at 2:00pm in the Workshop Area of Sky Nursery, 18528 Aurora Ave. North in Shoreline.

**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



## February—Norton's News

Robert Norton, Vashon I.

Spring is just around the corner and it looks like we may have gotten through the winter with little damage (other than from the ice storm). The buds are breaking on the stone fruits (peach, cot, cherry, plum) and pome fruits, especially Asian pears. This means it's a bit late to control peach leaf curl (*Taphrina deformans*) with lime-sulfur or copper (Bordeaux) but a spray on the next dry day might help to reduce damage. This spray now will help to reduce infection from *Pseudomonas syringae* on pear and Anthracnose on apple. Speaking of anthracnose, be careful as you prune apples to watch for cankers and be prepared to disinfect tools between trees or cuts on the same tree. As you may remember, I use Listerine mouth wash. Chlorox (1:10 dilution) also works but may be more corrosive.

This winter I've been training 5 commercial pruning students who will be available for hire. We have our VIFC pruning workshop on Feb 25, and one or more of them may assist Michelle Ramsden and me as instructors. They haven't completed the summer pruning part of the course but they are ready to hire out on winter pruning. Call me for contact info if you know of job possibilities or wish to have some individual assistance at your own place. They will set their own rate of reimbursement.

I'm sure you know that this is an ideal time to be planting bare-root trees. We had a great session at Josh and Martin's place on Feb 11. I was shocked at the hardpan at their proposed orchard site. They will need some serious tillage to break it up, not to mention the need for copious amounts of organic matter to mix with the shattered gravelly "soil". Most of us would not have soil this difficult to work with. Almost any soil on Vashon is capable of growing excellent fruit trees provided there is good sun exposure (8-10 hours daily in summer) and sufficient drainage.

As to what to plant. Scion wood of perhaps 100 varieties will be on sale at the Peninsula Fruit Show Mar. 17. You might want to attend, learn to graft and pick up some scion wood.

One last thing, believe it or not, we are within a month or so of bloom on apricot, plums and early cherries. As I did last year, I will be buying some pollen from Antles in Wenatchee, probably Bartlett pear and Van cherry. It will be applied with my little powder puff to lower blooms and with the puffer higher in the trees. If anyone wants to share pollen (and costs) to do your own trees, let me know by the end of the month. Also as apricot, plum and cherry reach popcorn stage (just before the flowers open) they will receive fungicide sprays (Captan and/or Pristine) for Botrytis (brown rot). My greatest losses last year were from this disease—much worse than bird damage. As I consume my last jar of home canned apricots, I am determined to get a crop this year (none last year) Thanks to Emily MacRea and others, we picked off a lot of brown rot from the cherries or the loss would have been much greater.

Fruitfully yours Bob

\* \* \* \* \*

## PFC Spring Grafting Show Mar. 17

Peninsula Fruit Club will hold the Spring Grafting Show on Saturday, March 17, 2012, from 10 AM to 4 PM at the Silverdale Community Center, 9729 Silverdale Way NW, Silverdale, WA. Join us and stock up on scion wood, rootstock, grafting knives, footies, mason bee houses, miscellaneous potted and bare root trees and berries, and other supplies. You can learn how to graft and make your own tree from over a hundred and fifty different varieties, or have one of our members make it for you. Come and learn about common pests and diseases and what to do about them. Learn how to root a fig, grape, or kiwi, and take some home to try from our collection. Find out all about our native mason bees and how to care for them. Spend some time with us at the show and learn all kinds of interesting things.

Here's a link to our show flyer: <http://wcfs.org/wp-content/uploads/2012GraftingFlyerRev3.pdf>

Jean Williams PFC

\* \* \* \* \*

**Revised USDA plant hardiness zone map.** Enter your zip code.

<http://planthardiness.ars.usda.gov/PHZMWeb/>

## STFS Spring Fruit Show 2012

The Spring Fruit Show is March 24<sup>th</sup>, Sat., at Sky Nursery, 18528 Aurora Av N., Shoreline from 10-3pm. Volunteers can arrive at 9am the day of the show and takedown will start at 4pm. Set Up will be the day before, on Friday, March 23<sup>rd</sup> from 1pm-7pm. Bring your scion wood to the set up on Friday. Volunteers, & People participating in the Show need to park on the southwest side of the building, away from the front entrance or on Midvale Ave N. If you can volunteer call Rose 206.525.2523.

The show will be set up in the South West corner of the big main greenhouse at Sky Nursery. It's a beautiful venue and we need volunteers. The only way we can pull this off is that we all help as a club.

We will have a Welcome table, STFS Literature tables with information on Fruit Growing. Lori's Fruit Posters will be for sale at the show for \$20. The show area is reserved for workshops & the WCFS Annual meeting. Lectures will be down in the old nursery in their workshop room, just adjacent to the show area. Mike Ewanciw is putting the lectures together.

Workshops will be...

10:30am -11:15am Learning to Graft, Mike Shannon  
11:15 - 12:30 Making Jams and Jellies, Larry Davis  
12:30-1:00 Growing Grapes, David Johnson  
1:00pm -1:45pm Learning to Graft, Mike Shannon  
2:00pm -3:00pm WCFS meeting

There will be a Kid's Crafts Area with print making projects. We will have a large scion & cuttings display. We still need scions of Apple, Pear (Euro & Asian), Cherry, Plum, Apricot, Grape. Scion wood prices will be the 'first 5 Free and after that \$1 each'.

Rootstock prices will be \$3 each for Apple, Pear, and Plum; Cherry will be \$4 each. The rootstock varieties for sale will be Apple (Antonovka, Budagovski 9, EMLA 7, EMLA 26, EMLA 27, & MM 111), Plum/Apricot ( Marianna 2624, Pear ( OHxF 333 & Quince Province BA 29C), and Cherry (Krymsk 5).

For \$10, we will have grafting by experienced grafters. You can pick out your scion wood, rootstock and have a tree grafted for you or you can learn to graft it yourself at one of the workshops offered. We will also have the service of 'Potting up Your Tree' for \$5, with 1 gallon pots and soil there at the show. Of course there will be Tool Sharpening! Other informational tables will be on display.

Please volunteer and help us make this a success.

Thank you.

Call Rose 206.525.2523.

## Vashon Island Fruit Club Calendar

**Tuesday March 6<sup>th</sup> -6 pm- Land Trust Building- Bench Grafting Presentation By Mike Shannon - followed by hands on instruction *please note the earlier start time, enabling Mike to catch a Ferry back to Kitsap at a more reasonable time.***

**Young Apple Tree Distribution**—Trees will be ready for pick up between 10-12 on Sat., Mar. 10 at Bruce Jackson's.

**Saturday March 10<sup>th</sup>- Young Apple Tree Distribution and Bench Grafting Workshop Jackson Orchard-** Mike Shannon and Bob Norton will supervise grafters at all levels of experience. Event at Bruce Jackson's, 17920 94th Ave. SW. Mike and Bob will be supervising club members bench grafting scion wood and rootstock. Members can take their newly grafted trees home for a nominal \$5 each. We will also have vinyl wrap-around tree tags available at 3 for \$1.

March 10 - 11<sup>th</sup> we will need all the help we can get digging up and handing out the young apple trees the Club has grafted and raised.

**It is not too late to place your order** - many fine and proven varieties remain available to members @ \$12 a tree. Please contact Emily MacRae for a list : [egmacrae@yahoo.com](mailto:egmacrae@yahoo.com).

**Save the date** - Our annual picnic will once again be hosted by Kathleen and Doug Tuma on Friday, August 10<sup>th</sup>.

Scott Durkee, Vashon Island

\*\*\*\*\*

---

The Spring 2012 BeeLine was produced by 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 1**

Email your articles to:

Marilyn Couture: [couture222@msn.com](mailto:couture222@msn.com)

Permission to copy from the Beeline is granted with attribution.

\*\*\*\*\*



## South Sound Grafting-Scion Mar 6

SS Grafting and scion exchange starts at 6:00pm at Evergreen's Organic Farmhouse.

6 pm- 7pm will be for scion exchange and blueberry plant pick-up.

At 6 pm we will gather scion wood and label; and sell blueberry bushes, and scion wood.

6:30 Ruffus Garrouette will talk about blueberry care. Ruffus owns a small blueberry farm which supplies blueberries to local businesses.

7pm Jerry Kehoe will explain basic grafting techniques.

7:30 Jeb Thurow— an over view of bud grafting.

Jerry had 100% success with his grafting efforts last year and Jeb did well too! We are hoping people will come learn and exchange some scion wood. SSFS is hoping to collect most of the 20 recommended apple varieties for Western Washington and some historical and rare scion wood.

Francesca Ritson, South Sound

\* \* \* \* \*

Please join us at the next meeting of the ...

**Snohomish County Fruit Society**  
**Thursday, March 8th**  
**@ 7-9pm**  
**Snohomish Library\***

The Snohomish County Fruit Society (SCFS) is the newest chapter of Western Cascade Fruit Society (WCFS) [www.wcfs.org](http://www.wcfs.org).

The meeting is open to the public and everyone is invited. For further information, phone (425) 398-5544.

We will be hearing about our parent organization, WCFS, as well as making decisions about future meetings and activities of the chapter.

\*in the multi-purpose room,  
Snohomish Library, 311 Maple Ave, Snohomish, WA  
98290-2525

**Rebekah Jackson** <[bekietravel@gmail.com](mailto:bekietravel@gmail.com)>

## Welcome New Members of Snohomish County Fruit Society (SCFS)

Congratulations and welcome to Snohomish County Fruit Society, our 8<sup>th</sup> and newest WCFS chapter. February 18<sup>th</sup> was the chapter's third meeting. Amy Thomas and Dan Sakuma from Sakuma Brothers Farm in Skagit County were guest speakers and focused their discussion primarily on growing sweet and healthy strawberries. Amy and Dan brought along bare root raspberries and strawberries for members which were much appreciated. SCFS is located in the midst of the county's agri-tourism adventures, farmers markets, the Evergreen State Fair and the Snohomish County Fall Farm Festival and more. Once again, a warm welcome. We're all thrilled to have you in our organization.

### Snohomish County Fruit Society Officers

President – Jack Haines

Vice President - Gil Schieber

Secretary/Treasurer - Rebekah Jackson

Director – Mike Ewanciw

\* \* \* \* \*

Dear WCFS Board,

In accordance with our Bylaws, we have a new chapter. **Snohomish County Fruit Society** was formed January 21. SCFS met last month at the Fire Station in Lynnwood. De Arbogast and Bill Davis discussed growing the best blueberries in our area and cautioned the group to be on the lookout for blueberry scorch virus and blueberry shock diseases. Our eighth and newest WCFS chapter currently has six enthusiastic founding members and more on the way. The group decided on dues of \$20 per year and to hold meetings in Snohomish. They also wanted "County" in their name to indicate that this is a more inclusive county-wide organization. They needed and now have a larger room reserved for this Saturday's meeting in Snohomish at the Carnegie Library at 105 Cedar Ave. in downtown Snohomish. This is not a permanent meeting location though as the library will close for renovation sometime in July. The chapter will conduct its new business and its scheduled program will be presented by Amy Thomas and Dan Sakuma from Sakuma Brothers in Bellingham. Of course you're all welcome to join us. SCFS meets on the 2<sup>nd</sup> Thursday of the month at 7 pm. The location is Snohomish Library, 311 Maple St., Snohomish WA 98290.

Judi

## Apple Tree Stories

### Apple Search Newsletter

Tom Brown, January 5, 2012

Much effort was spent during the past year expanding my home orchard; I now have 270 additional apple trees in the ground and many more will be added this year. Apples found during 2011 include the following: Green Wolf River, Gully (Mangum), Koger (Cougar), Larkin Sweet, Millhorn, Raspberry June, Sam Steele, Spice (med., round, red), Sookie, Summer Horse, Yellow Gano, etc.; also possibly the Chestoa (Rabbit's Head).

Boone (NC) has several apple treasures; one tree is located about five blocks west of the Post Office beside a law office. The apples are very large, greenish yellow, with an occasional patch of red, sour, and ripe September and reportedly a very good keeper. My introduction to this tree occurred when a lady mailed me some of the apples about seven years ago. In late October I was passing through Boone and noticed that the tree had many apples and stopped and collected a few. As I examined the apple, I realized that they perfectly fit the description of the Koger apple I had been searching for near Jonesville, VA; prominently mentioned in the Miller's Chapel community. I then mailed some of the apples to three Jonesville people who remembered the Koger, they all said that, "Yes, this is the Koger"; also called the Cougar apple. It made a delicious apple pie with equal parts of Koger, King apple, and an unknown central Tennessee apple.

This year I would like to share with you my love of apple trees. They are trees which provide us with delightful fruit for many uses, shade on a hot afternoon, habitat for wildlife, are great climbing trees for youngsters, and add stories and lore, enriching our enjoyment of life. The trees can be very tall such as a Howard apple, or more dwarfing like a Sheepnose Delicious, have a drooping branch structure as do some Limbertwigs or grow "straight-up" similar to a Winter Spice tree, or have a horizontal branch structure of a Green Biscuit tree, have very rough bark like a Traphill Sheepnose or the very smooth bark of an unknown apple tree in Buchanan County (VA); what an amazing diversity.

**Scott County Giant**---Randy Moore and Jim Elam took me to see what they describe as "the largest apple tree in Scott County" (VA). From their level of excitement I knew that I was about to see something special. The tree was located high up on a hillside Near Addington Frame Church. I was astounded to

see this giant; its straight trunk had a circumference of 135 inches (an average diameter of 43 inches). It is known as "the Ma Deli tree" and referred to as a "type of Winesap". I was able to get cuttings and successfully grafted several trees. I returned in August hoping that there had been enough life in the tree to send up some new sprouts for even better grafting wood. I found that there were two sprouts growing from a jagged bark edge, high up on the tree. Upon closer examination, I saw something mysterious about the sprouts. Normally on sprouts, you would see leaves and buds (the buds are for future year's growth). The tree apparently "knew" that there might not be a next year, thus the shoots did not have any buds, but instead fleshy hollow growths where the buds were usually located. It is my opinion that apple trees have a biological intelligence and can do out-of-the ordinary things when necessary for their survival.

**Survivors**---In a cove behind Roan Mountain (TN) I once saw an intriguing apple tree in late fall; it was a small tree, about 16 feet in height, almost all the leaves had dropped better showing the large number of bright red apples; making it look like a Christmas tree decorated with red balls. Hale Hughes lived at the home and called it a Jelly apple; some locals said that it was a small Black Ben Davis. The next year this prolific tree was dead. Was the final large crop of apples an effort of the tree to propagate itself into the future?

One of my favorite people was Ora Burnette who lived in the Cruso section of Haywood County; Ora had extensive knowledge about old apple varieties. Near his home were the mostly dead remains of an old apple orchard. The trunks were Stine apple trees which had been "top grafted" with Wolf River at the 8 foot height level. One tree stood as a silent sentinel with its Wolf River branches long dead and now missing; the wooden trunk core was easily visible since 90% of the bark was gone; the only life consisted as a narrow line of live bark that ran from the ground and then high up on the trunk, coming from the top of this bark "run" was one sprout. I got cuttings and the resulting grafted tree was the lost Stine apple. Apple trees are truly amazing survivors.

**Lazarus Apple**---In eastern Wilkes County (NC), I was impressed by an apple tree at a fallen-down barn, across the road from the East Wilkes Middle School. The beautiful apples were medium sized, firm, whitish in color, and tart. Due to poor scion wood my first grafting attempt was unsuccessful. Mr. Raymond Collins, of the Thurmond Community, recognized the apple as a Canning apple, and told me where a former tree stood. The next year I was horrified when I drove



Apple Stories cont.

by and saw that the tree was flat on the ground, the tree had fallen months earlier, since the branches seemed to be very dried out. With exhaustive searching I finally found a branch with a very slight hint of green wood. I realistically thought that grafting was probably hopeless, but I grafted six trees anyway. To my surprise one lived. As I was letting my prized tree grow to eventually get more cuttings for grafting, an Ambrosia Beetle attack killed the tree. For the next week I moped around due to the tree loss. I then remembered that I had pruned the trees late and had not yet cleaned up the dropped cuttings. The cuttings were weeks old, but I was able to find the proper cutting. Again, I grafted six trees and miraculously one lived. I now have several grafted trees; which should now probably be called the Lazarus Apple.

**Most Beautiful Apple Tree**--- Surely, without a doubt, this distinction belongs to a Jenny Beauty apple tree in northeastern Wilkes County. The tree is about 20 feet tall with a branch spread of 40 feet. It has a short massive trunk with two immense limbs, which form an unusual limb structure. One limb grows to the right and then it turns and eventually forms the left side of the tree; the opposite is true of the other branch. The Jenny Beauty tree is an ancient, perfectly formed apple tree, with great mostly red apples.

**Lost Friends**---As time passes, I have begun to think of these apple trees as dear friends I look forward to revisiting each year. Sadly two of my "best friends" have been lost; one such tree was a Green Bellflower in western Yancey County (NC). It had round green apples the size of a softball; a beautiful green color, juicy and great tasting. Goats killed the tree. Another favorite lost tree was a Red Horse apple which grew in the Dehart section of Wilkes County. The tree was lying down near an old home site; each year it had perfect large flattened red apples and put up a profusion of disease-free sprouts (my favorite grafting tree). One year when I returned I found the tree gone and in its place a mobile home. In both cases I sadly felt that I had truly lost a best friend; but happily I have grafted trees of both. The next time you go to an Indian restaurant, order goat.

I wish you and your family a prosperous 2012.  
[The Mayan calendar ends 12-21-12.]

Tom Brown, Heritage Apples  
7335 Bullard Road, Clemmons, NC 27012; Phone:  
336-766-5842  
Email: [applesearch@triad.rr.com](mailto:applesearch@triad.rr.com)  
Web site: [www.applesearch.org](http://www.applesearch.org)

## WCFS NEW MEMBERS



### Seattle Tree Fruit Society

Lowell Cordas  
Brad Cloven  
Johnathon & Kim  
Kobayashi

### Peninsula Fruit Club

Robert & Carolyn  
Schiller  
Lea Bessler  
Bob Lamb

### Olympic Orchard Society

Jim & Carol House  
Brian & Anna Swanberg

### Snohomish County Fruit Society

John Czech  
Mike Ewanciw  
Darlene Granberg  
Jack & Kristi Haines  
Rebekah Jackson  
Laure Jansen  
Connie Murry  
Gil Schieber

\*\*\*\*\*

### Parasitic Fly a Threat to honeybees

A link to a summary published in Scientific American:  
<http://blogs.scientificamerican.com/observations/2012/01/03/zombie-fly-parasite-killing-honeybees/>

Jean Williams, PFC

**Puyallup Wallop, Tahoma Style!!**  
**Chuck Polance**

The WCFS booth in the massive Showplex at the Western Washington Fair once again proved to be a magnet for fairgoers. With over one-million people in attendance over the 17-day event, our booth received a steady stream of traffic. Success didn't "just happen." It took a lot of pre-planning, hard work and sustained commitments.

Special recognition needs to be given to two (2) Tahoma Chapter leaders who were instrumental in making this annual event run smoothly. Bill Horn (Treasurer) and Henri Carnay (President) took the initiative in getting chapter members excited about setting-up eye-catching displays, teaming experienced volunteers with first-time novices to man the booth, displaying and maintaining fruit cultivars, promoting the Oregon-built Correll cider press raffle, etc.

Thank you to all participants who contributed their time, apple samples, and creativity to make this a memorable team achievement.

Clearly, the expectations of the backyard fruit growing public were met.

All I can say is "Mission accomplished!!"

OH!! This year we sold MORE raffle tickets for the apple press than last year! This continues to be a dependable fundraiser!!

The Tahoma Chapter makes donations to organizations that promote the mission of our WCFS. Specifically, we raise funds for research into:

- developing newer and better fruit varieties and growing techniques, and
- exploring effective disease and insect controls.

If you've considered volunteering to cover the WCFS booth, we'd love to hear from you. The 2012 Puyallup Spring Fair runs from April 19 – 22<sup>nd</sup>.

Please feel free to contact:

-BILL HORN: Tel# 253-770-0485

[hornbill66@msn.com](mailto:hornbill66@msn.com)

-HENRI CARNAY: Tel# 253-568-6499

[hcarnay@comcast.net](mailto:hcarnay@comcast.net)

\*Make a BeeLine to the Puyallup Fair's website for on-going events, especially for Spring Fair details. Hope to see you at our booth!!

-Chuck Polance,  
Tahoma Chapter  
[charlespolance@yahoo.com](mailto:charlespolance@yahoo.com)

Chuck Polance with  
Carmen Franco at the  
Puyallup Fair





## The 1-2-3 rule of pruning Turn Wood into Fruit on Apple and Pear Trees by Bas Van Den Ende Good Fruit Grower Jan. 15, 2010

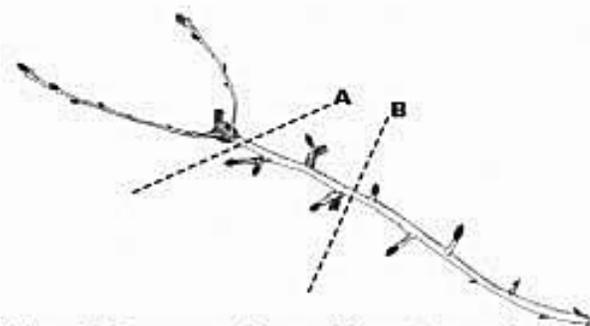
The largest and best quality apples and pears grow on two-year old wood and young spurs. To develop two-year-old wood, prune trees according to the 1-2-3 rule of renewal pruning. This rule ensures that the fruiting wood remains young and productive. Your trees are as young as the fruiting wood. Using a pear tree as an example, here is how you use the 1-2-3 rule.



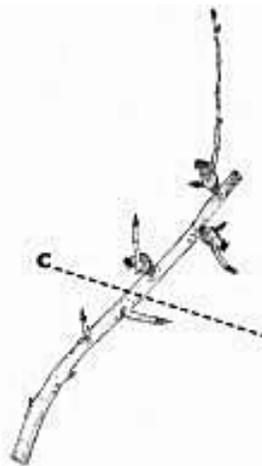
1. The 1 of the 1-2-3 rule refers to the one-year-old laterals, also called pencils. These laterals are 12 to 16 inches long and a little thinner than a pencil. The buds at the tips are often fruit buds (Fig. 1). Never shorten these laterals. If you have too many, space them out and keep the ones that are horizontal and almost as thick as a pencil.



**Figure 1.** Sequence of wood renewal. This one-year-old lateral is the foundation of your fruiting wood. Do not shorten it. Keep your trees healthy and moderately vigorous, so that you will always have plenty of laterals to choose from.



**Figure 2.** Two-year-old wood has set several pears at the tip end. Cut the wood at the ring (A) or deeper (B), depending on the length and thickness of the wood, the number of fruit buds, and the vigor of the tree. Either cut will enhance fruit set and fruit size.



**Figure 3.** This three-year-old wood was cropped when it was one and two years old. It was cut back deeper than the ring. The three buds behind the cut have set fruit as shown by the swellings (bourses) and bourse shoots. The buds on these bourses are of little value, because they are not fruit buds. Cut this piece back to C to generate new laterals.



**Figure 4.** The three-year-old piece of wood has produced two laterals. You could keep one or both laterals. The cycle of wood renewal can start again.

1-2-3 cont. from page 9

Remove the strong upright shoots and long laterals without fruit buds at the tips. These are nonproductive growth shoots. However, some pear varieties, such as Forelle and Beurre Bosc, often do not produce one-year-old laterals with fruit buds at the tips. If left untipped, these laterals will bud up in the second year.

Also remove the very thin laterals, because these will not produce the quality and sizes of fruit that the market wants. About one-third of the renewal wood should be one year old.

2. The 2 in 1-2-3 refers to fruiting wood that is now two years old. This two-year old wood has had one or more pears at the tip last year and has not spurred up. The fruit bud at the tip has also grown one or two bourse shoots (Fig. 2).

How you prune this two-year old wood depends on the number of buds and the vigor of the trees. Here are two options:

\*Cut back to the "ring". This is the division between the one- and the two-year-old wood. This cut is called the "ring" or fertility" cut, because it improves fruit set (Fig. 2, A).

\*Cut deeper than the ring to reduce the number of fruit buds. Often you find differences in the fruitfulness of this wood on the same tree. Cut deeper when the wood is weaker (Fig. 2, B).

About one-third of the renewal wood should be two years old.

3. The 3 in 1-2-3 refers to three-year-old wood which was cropped when two years old and sometimes one year old. Renew the three-year-old wood by cutting it back hard (Fig. 3). This way you will generate new laterals, and the cycle starts again (Fig. 4). You may leave some good young fruiting spurs on this three-year-old wood, but you must cut back hard to get new laterals.

About one-third of the renewal wood should be three years old.

The 1-2-3 rule of renewal pruning is simple and less expensive than spur pruning, and it ensures that your trees do not develop old, tired spurs that produce fruit of poor quality and size. This rule also avoids biennial bearing, provided there has been adequate cross-pollination. The 1-2-3 rule is very effective if you keep your trees calm. Calm trees have dominant leaders that are not forked and have stubs and small secondary branches that carry the one-, two-, and three-year-old wood.

*Van den Ende is a tree fruit consultant in Australia's Goulburn Valley.*

## 2011 Grape Growing Report for Western WA

In 2011, we did not have a very warm summer. Grapes in particular missed the extra heat, and about half of my fruit was not suited for harvest this season. What is noteworthy though is that several of my selections still managed to ripen and I got at least one gallon of wine made. The Richard Walden seedless just barely made it, and the Jovan also did fine. Both are very durable grapes and hold up well in our wet fall weather.

For prospective growers of table or wine grapes, I'd offer the following suggestions: First and foremost, find out what can mature here before you buy the plant. Find someone who actually grows the vines to bearing age in Western WA. Only a few retail nurseries are doing this. Next, do not crowd your vines. I suggest a bare minimum of six feet apart in the row, with eight feet being even better. Crowded vines create more shade, which reduces fruitfulness. It also encourages botrytis and mildew. Avoid large tree roots: A minimum of 20 feet from larger trees is essential. Our native trees are generally shallow rooted and they spread far from the main trunk. Prepare the soil before planting. It is a lot tougher to modify the soil once you have the plants in the ground. For our region, "the maritime Puget Sound lowlands", the ideal soil type would be sandy gravelly with some loam. Break up any hardpan layer within 6 feet of the soil surface, and be sure you have excellent drainage. The worst sort of soils would be alluvial silt loam, high organic soils and worst of all, clay. For trellising, I suggest a 4 wire trellis, using 6 to 7 foot tall steel 'T' Posts. Arbors are pretty, but it is hard to properly train the vines and they usually end up a tangle of spaghetti like canes. I have been hybridizing grapes in Western WA for over 10 years, and I think the best species for adaptation in our region are as follows:

Vitis Labrusca

Vitis Coignetiae—also a striking ornamental

Vitis Riparia

Vitis Rupestris

Not that any of these are outstanding grapes on their own, but I've used them in breeding to Vinifera types over the years and have achieved some pretty good results.

David Johnson, Milton, WA [Royj157@gmail.com](mailto:Royj157@gmail.com)

253 310 1456

David Johnson will speak to groups for \$50 honorarium.



## Rootstocks—A Compendium by Lowell Cordas, Lowell's Tools Jan. 09, 2012

### Introduction

Today's modern orchardist is faced with the same problems as the homeowner when growing fruit trees. No longer are tall trees the accepted standard. Research has reduced the size of trees greatly through the use of grafting upon the correct rootstock for the planting site; making spraying, pruning, picking, and managing the tree much easier. In addition, more trees can be grown in smaller spaces. This compendium will introduce you to the many varieties of rootstocks and their specifics.

This compendium has been compiled from web-based sources and commercial fruit tree nursery catalogs. They are listed at the end of this document.

### Definition

A rootstock is a plant which already has an established, healthy root system, used for grafting a cutting or budding from another plant. The tree part being grafted onto the rootstock is usually called the **scion**. The scion is the plant that has the properties desired by the grower and consumer, and the rootstock is the working part that interacts with the soil to nourish the new plant. After a few years, the tissues of the two parts will have grown together, producing a single tree although genetically it always remains two different plants.

### The originators

These are the researchers and institutions that are most commonly seen in lists of rootstocks.

### Budagovsky

The history of Michurinsk State Agrarian University totals seven decades. In the 1929 Ivan Michurin began an educational institution for training agronomists which now bears his name. The university is well known for its scientific researches, the priority in which belongs to fruit- and vegetable-growing. It has created a unique Genetic bank of dwarf apple rootstocks with high root frost resistance. Bud 9 is one of the selections. Others are designated by a letter "B". For the scientific work "Selection of winter resistant dwarf apple rootstocks, their multiplication and cultivation technology of intensive orchards" professors Budagovsky V.I., Korovin V.A., Potapov V.A. and director of training farm "Komsomolets" Dubovik V.A. were awarded the State Premium of Russian Federation of 1994.

### Geneva

The Geneva® Apple Rootstock Breeding program was initiated in 1968 by Dr. James Cummins and Dr. Herb Aldwinckle, with the objective of developing rootstock genotypes with improved nursery and orchard characteristics that are better adapted to the biotic stresses which are common in eastern North America of fire blight (*Erwinia sp.*), and crown rot (*Phytophthora spp.*). Dr. Cummins led the program until his retirement in 1993. In 1998 the Cornell University rootstock breeding program was converted to a joint breeding program with the United States Department of Agriculture (USDA) with a USDA breeder as the lead scientist. From the 30 year effort in apple rootstock breeding, the most advanced selections have been tested in orchard trials at the New York State Agricultural Experiment Station in Geneva, New York, on growers' farms across New York State, in multi-location national rootstock trials conducted by the NC-140, and in several other countries.

### Gisela

In the late 1950's the Justus Liebig University of the town of Giessen, Germany decided that they would create a department responsible for fruit breeding. In 1960, Dr. Werner Gruppe chose as his primary task to breed dwarfing cherry rootstocks, which no one had succeeded in breeding. He used *Prunus avium*, the wild sweet cherry, as one partner, because that would make it easier to produce a compatible hybrid and to cross it with a whole range of dwarf *Prunus* species. In all, 6000 crosses were made between various dwarf species and the resultant seedlings evaluated for graft compatibility, dwarfing ability and health status with a select group of cultivated sweet cherries. The most promising of these was a cross with *Prunus canescens* and eventually one or two selections were chosen for extensive trial with several cultivars. Two of these proved the most worthy, these were the stocks labeled 248/1 and 248/2, which were named Gisela 6 and Gisela 5 respectively. Gisela 5 was the more dwarfing, about half the tree volume of Colt rootstock, which was, at that time, the standard, but cropped as heavily, and Gisela 6 was as vigorous as Colt but gave twice the crop and was more regular in bearing. Although Gisela is a girl's name in Germany, it actually stands for **Giessen's Selection for prunus Avium**.

### Krymsk

Krymsk, Russia is known for its experimental plant breeding station, which holds important scientific collections of, among other crops, green peas, sweetcorn, tomatoes, peppers, aubergines, cucumbers, apples, plums, peaches, pears, apricots, and strawberries. The station's stone fruit and quince collections are the larg-

Rootstocks cont.

est and most important in Russia or any part of the former Soviet Union. Of the 9,000 accessions of *Prunus*, about 5,000 to 6,000 are wild species and forms, 500 to 1,000 local varieties, and 2,000 to 3,000 cultivars and breeding materials. The station is also known for the creation of fruit-tree rootstocks, which are named after the town + a number (e.g. Krymsk 1, Krymsk 2, etc.)

### Malling and East Malling

In 1912, Ronald Hatton initiated the work of classification, testing and standardization of apple tree rootstocks. With the help of Dr Wellington, Hatton sorted out the incorrect naming and mixtures then widespread in apple rootstocks distributed throughout Europe. These verified and distinct apple rootstocks were then distributed throughout the world as Types, initially Type I through Type IX. Several of the Malling series rootstocks are several hundred years old and were known by other names before the Malling research center created a rootstock collection and renamed the rootstocks as follow:

- M.I (M.1), vigorous, had no name,
- M.II (M.2), vigorous, was "English Paradise",
- M.III (M.3), semi-dwarf, had no name,
- M.IV (M.4), intermediate, was "Doucin jaune de Holstein",
- M.V (M.5), vigorous, was "Doucin amélioré" (Improved doucin),
- M.VI (M.6), very vigorous, was "River's nonsuch paradise",
- M.VII (M.7), semi-dwarf, was "Doucin Reinette" aka "Doucin vert", bred around 1688 in France,
- M.VIII (M.8), dwarf, was "french paradise" aka "Clarke dwarf",
- M.IX (M.9) was previously known as "Jaune de Metz" or "Paradis". Selected as a chance seedling in France in 1828.
- M.XVI (M.16), Very vigorous, was "Ketziner Ideal"

Only two of these original Malling selections, M.9 and M.7, are now used extensively by commercial orchardists. Later, further types were added to the original nine, though most of these invigorating rootstocks have since disappeared largely from commerce. **"EMLA"** designates East Malling / Long Ashton research stations who took the "M" stocks and developed virus free versions. E.g., EMLA 7 is M 7 with a guaranteed virus free stock. EMLA characteristics are often different from the parent "M" rootstock. Note that nearly all the apple rootstocks in the industry are now

virus free.

### OHxF

The "OHxF" rootstocks are better named the "Old Home by Farmingdale" rootstocks. The original "Old Home" tree and "Farmingdale" trees were discovered in an Illinois orchard where they were suffering no fire blight like the rest of the orchard. Prof. Reimer of Oregon State University took clones home and crossbred them. Over a period of time, many people became interested in the progeny of these two trees, but a private nurseryman named Lyle Brooks and other researchers developed them into the rootstock that they are today. All the OHxFs are propagated by cuttings or in tissue culture -- with considerable difficulty, as all are reluctant rooters.

### Weiroot

The Weiroot rootstocks were originally selected from wild sour cherry (*Prunus cerasus*) seeds growing in the mountainous regions of Bavaria. These alpine sources assured scientists that the plant material would be cold hardy. Weiroot is just beginning to appear in American producers catalogs. After years of testing by scientists and extension personnel, two series of releases were eventually made. The first generation of releases included Weiroot 10, 13, and 14 -- of which Weiroot 13 was the most popular and widely planted. All of these selections were relatively vigorous, reducing growth by 20% to 30%. These rootstocks introduced the concept of size control to Franconian growers. Coupled with the poor soils of the area, they provided increased precocity along with reduced tree height, giving growers the ability to grow a 15-foot tree. In fact, Weiroot 13 became so popular that it replaced Mazzard F 12/1 as the standard for the region. However, the goal of scientists was to provide growers with a range of tree vigor and not simply a semi-dwarf tree. Therefore, a second generation of releases was made, which included Weiroot 154, 158, 53 and 72. These rootstocks provided growers with true dwarf alternatives to the standard rootstocks. From this series of releases, Weiroot 154 and 158, providing 50% reduction in vigor, have proven to be the most satisfactory. Probably the most exciting aspect about the Weiroot rootstocks is their ability to maintain fruit size while reducing tree size.

### Certified Virus Indexed

When purchasing a fruit tree investment can be protected by purchasing trees that have been certified virus indexed. More than 40 virus diseases affect stone fruits. Others attack pome, citrus, avocado, fig, and other fruits. Certification of nursery stock grown



## Rootstocks cont.

in Washington State, is governed by the Washington Administrative Code, Chapter 16-350. (WAC Chpt. 16-350) Unless the product is expressly sold as "certified," "virus-indexed," or "certified virus-indexed" with the appropriate Washington State certification tag, stamp or other qualifying document, the product is not, "certified." If the product is not "certified" there is no warranty that the tree is free from harmful viruses and virus-like diseases, or other diseases caused by viroids and phytoplasmas. If the product is sold as "certified," "virus-indexed," or "certified virus-indexed" it is only warranted to be free from the viruses and virus-like diseases for which it was tested. "Certification" under WAC Chpt. 16-350 does not mean that the product is free of any and all viruses and virus-like diseases; it is only a warranty that the product is free of those viruses and virus-like diseases for which it was tested under the guidelines established by the various Research Stations involved at the time of its testing. Even if the material is "certified" there may be certain viruses which the then-existing testing methods and protocols did not detect. Consequently, those products cannot be warranted to be free of those viruses and virus-like diseases which cannot be tested or detected under the testing methodologies and protocol at the time of certification. Many other states use similar language to certify that trees produced in their states are as virus and virus like free as possible. Here is a list of index hosts and the diseases which each may serve to diagnose:

*Peach. Elberta:* Peach yellows, little peach, red suture, peach rosette, rosette mosaic, phony, peach mosaic, X-disease, western X-disease, yellow bud mosaic, wart, peach mottle, peach necrotic leaf spot, asteroid spot, golden-net, peach calico, peach blotch.

*Peach. J. H. Hale:* Ring spot, willow twig.

*Peach. Muir:* Muir peach dwarf.

*Peach. Seedlings* (open-pollinated seedlings of Lovell and Halehaven have been used): Necrotic ring spot, sour cherry yellows.

*Sour cherry. Montmorency:* Sour cherry yellows, green ring mottle, necrotic ring spot, pink fruit, peach mottle.

*Sour cherry. On Mahaleb:* Western X-disease wilt and decline.

*Sweet cherry. Bing:* Buckskin, albino, mottle leaf, rusty mottle, mild rusty mottle, rasp leaf, twisted leaf, tatter

*Sweet cherry. Royal Ann:* Black canker, cherry rugose mosaic, and pinto leaf.

*Sweet cherry. Lambert:* Necrotic rusty mottle, little cherry, small bitter cherry, Lambert mottle, Utah Dixie rusty mottle.

*Prunus serrulata vars. Shirofugen:* Ring spot.

*Prunus serrulata vars. Kwanzan:* Other latents, rough bark.

*Plum. Italian Prune:* Prune dwarf. Plum. Shiro: Line pattern.

*Plum. French Prune:* Prune diamond canker.

*Plum. Standard prune:* Standard prune constricting mosaic.

*Plum. Santa Rosa:* Plum white spot. Apricot. Tilton: Ring pox.

**THE ROOTSTOCKS****Apple rootstocks**

The percent following a description indicates how large the tree will get as compared to a full size or standard tree. A full size (standard) apple tree can reach 40 feet tall and nearly as wide.

**Full Size Tree**

**Domestic apple rootstock:** Most rugged rootstock for apples. Vigorous, deep-rooted, cold hardy. Tolerates wet soil, dry soil, poor soil. Unpruned tree height of standard varieties 18' to 40 feet. Trees on apple seedling may be held to any desired height by summer pruning.

**Dwarfing rootstocks in order of lower to taller height****P22:**

A relatively new rootstock, producing a tree about 4-6 ft. tall. Needs good soil, permanent stake or trellis. (very dwarf) 25% (6'). Cold hardy. Good for growing in a container. Susceptible to woolly aphid. Needs regular irrigation, weed and grass free growing area.

**M-27:**

An extremely dwarfing rootstock for apples. Trees dwarfed to 6-8 ft, ideal for high density planting, small spaces in garden, tub growing. Needs staking. Induces early and heavy bearing. Small root system, young trees may need staking. Resistant to collar rot, very susceptible to fireblight, needs regular irrigation. Not extremely cold hardy. Keep growing area weed and grass free.

**Geneva 65:**

Hybrid of M27 and Beauty Crab. 25% (6-8'). Resistant to collar rot, very susceptible to fireblight, needs regular irrigation, staking. If allowed to grow

Rootstocks cont.

as a regular tree, G65 becomes a small shrub-like ornamental crab apple, with pink/white flowers and red fruits. Keep growing area weed and grass free. Good container tree. Somewhat more cold hardy than M27.

**M9:**

It produces a tree about 6-9 ft. tall. Needs fertile, evenly moist soil, permanent stake or trellis. Prefers heavier clay soils to sandy soils. (dwarf) 33%. May increase fruit size and earlier cropping depending on your conditions. Trees on this rootstock are susceptible to fireblight, susceptible to mildew and slightly susceptible woolly apple aphid. The trees must be supported as they have a shallow root system. Need grass and weed free growing area. They may be drought sensitive and not as winter hardy as other dwarfing rootstocks.

**Nic 29®:**

A Malling 9 type rootstock. It usually exhibits a better root system than Malling 9. Of the various types of Malling 9, Nic 29® exhibits stronger vigor, yet is still a full dwarf. Trees grown on this root require support. The rootstock is both precocious and productive, usually fruiting in second or third leaf. Fire blight susceptibility is similar to other M 9 strains. Recommended for high-density plantings.

**Pajam 2 Cepiland:**

A tree about 30% of standard. Similar in size to EMLA 9 and NIC 29. Superior rooting to other 9 clones.

**BUD-9:**

Dwarfing to 1/3 of Standard. Approximate height to 10', width to 6'. Resistant to Phytophthora. Excellent productivity and cold hardiness. Good for container growing. It is a hybrid between M 8 and Red Standard, a hardy rootstock of Russian origin. A full dwarf rootstock producing a tree with the same vigor as M 9. Requires staking or other support to keep anchored. Resistant to collar rot. Rarely produces burr knots or suckers. Mildly resistant to powdery mildew, woolly apple aphid and scab. Susceptible to fireblight. Keep grass and weed free growing area.

**Geneva 16:**

Another good alternative to M9, developed specifically to be resistant to fireblight, which is endemic in parts of North America. Grows quite rapidly at first but growth is checked once cropping starts. Produces a tree which is similar to or slightly larger than M9. Stake, keep growing area weed and grass free. Almost immune to fireblight, resistant to collar rot, cold hardy, careful irrigation and feeding.

**EMLA 9:**

Dwarf, Zone 3-8 Introduced by East Malling. Mature Height 8-10ft. It EMLA 9 has a dwarfing influence on all scions and trees bear early on in life. Fruit tends to be larger and ripens earlier. Trees on this rootstock can withstand heavy soils and wet conditions, but should not be planted in dry light soils. A vigorous tree that rarely suckers, EMLA 9's roots tend to be brittle and should therefore be staked. Disease resistant to collar rot, but is susceptible to mildew. Used in high-density plantings.

**M26:**

A good choice of rootstock for a small garden, more vigorous than M9, it will withstand moderate competition from weeds and grass and will grow successfully in soils with fertility on the low side. Does not produce a strong root system and should be supported by a stake during their lives. It is ideal for the amateur gardener who wants to grow a small bush tree or cordon and espalier shaped trees. Although not as quick to produce fruit as M27 rootstock trees, it is almost guaranteed to produce a crop in its third year. The tree will reach a height of about 10 feet.

**EMLA 26:**

It is considered to be smaller than a half size tree. It is about 40 to 45 percent of a standard tree, needs some support in early years, but could be self-supporting in later years. EMLA 26 is very early and heavy bearing. Rootstock stem piece develops large burr knots, so trees should be planted with the union a few inches above ground level. It has little tolerance of heavy, excessively acid, or unusually wet or dry soils. Not resistant to collar rot and is subject to fireblight. This rootstock is very adaptable for close plantings and double rows. When the M and MM series rootstocks were introduced, it was prior to virus testing and screening. The EMLA series is the same number, but virus indexed.

**Supporter 4:**

A cross of M 9 x M 4, Supporter 4™ is a dwarfing apple rootstock similar in vigor to EMLA 26. Anchorage is similar to EMLA 26, and trees on this root should be grown with some sort of support structure. The rootstock is relatively frost resistant. Supporter 4™ showed better efficiency than both EMLA 26 and EMLA 106.

**Geneva 11:**

A cross of M 26 x Robusta 5 hybrid, G 11 is similar in vigor to EMLA 26. Like EMLA 26 trees grown on G 11 should be supported. Trees of this variety are extremely precocious, productive and more resistant to woolly apple aphid than EMLA 26. G 11 is also somewhat resistant to fireblight and collar rot. G 11 also resists suckering. Keep growing area weed and grass free.



Rootstock cont.

**Mark:**

These rootstocks dwarf to half of standard size. Resists fireblight and phytophthora root rot. Well anchored, no staking required. Few or no suckers. Trees bear so heavy that thinning is essential to control stress on tree. Requires fertile soil, constant moisture. Originated as MAC-9 (Michigan Apple Clone) from Michigan State University, this patented rootstock was released for commercial use in 1985. Tree size is slightly less than M.26 and it can grow freestanding. It has a tendency to crop heavily on young trees and may cause stunting if fruit are not adequately thinned. Mark is resistant to collar-rot but susceptible to fire blight and woolly apple aphid. Burr-knots are formed about the same as on M.26. but it does not sucker. It is very precocious. A conspicuous tumor-like swelling surrounds the Mark rootstock at the soil line. The cause of soil-line swelling is unknown.

**MM106:**

It produces a tree about 66% - 12-16 ft. tall. This well-anchored, drought-tolerant rootstock does well in light soil; doesn't sucker. Subject to crown rot in heavy soils.

**EMLA 106:**

This rootstock produces a tree about half to two-thirds the size of a standard tree. It does not sucker and the rootstock is resistant to woolly aphid. EMLA 106 has been planted intensively in the East and West and is an excellent producer. It should be planted on well-drained soil as it is susceptible to crown rot.

**M116:**

It is a new rootstock, released in 2002, which can be used as an alternative to MM106. It produces a tree which is about 10% smaller than MM106, but capable of producing the same quantity of apples - making it an excellent choice for small orchards and gardens. It is derived from a cross between the MM106 rootstock pollinated by the M27 rootstock. Resistant to collar rot, some resistance to re-plant diseases, mildew and woolly apple aphid. Keep growing area weed and grass free for first 5 years.

**EMLA 7:**

A tree on this rootstock will be 50 to 60 percent smaller than a standard tree. (12 to 15 ft.) EMLA 7 does well on most soils, especially deep, fertile soil versus light sandy or heavy clay. Good for high lead arsenic residue soils and old orchard sites with replant problems. Some support may be needed in early years. EMLA 7 is very winter hardy. It is susceptible to suckering. Can be susceptible to

Collar rot. EMLA 7 is moderately resistant to crown rot and very resistant to fireblight and mildew. Susceptible to woolly apple aphid. Tends to produce root suckers in shallow plantings. Keep growing area weed and grass free.

**Geneva 30:**

This rootstock was developed at the Cornell U. breeding program by Dr. Jim Cummings. It makes a tree similar in size to EMLA 7. It is more fireblight resistant than EMLA 7 and produces trees that are more precocious than trees grown on EMLA 7. Needs support. Tolerates a wide range of soils. Susceptible to woolly aphid. Keep growing area weed and grass free.

**EMLA 111 (Northern Spy x Merton 793):**

It produces a tree about two-thirds the size of a standard tree. (approx 18 to 22 ft.) Vigorous scion varieties and better soils may grow to three-quarter size or larger. EMLA 111 is a good producing rootstock, is well anchored, needs no staking, is widely adapted to most soil conditions. It is an outstanding choice for spur-type Red Delicious varieties. Very drought tolerant, high soil temperatures and adapts to sandy and clay loam. Best Semi-Dwarf for heavy or poorly drained soils. Quite resistant to collar rot and Woolly aphids, and moderately resistant to fireblight. Can be susceptible to burr knots and powdery mildew. Not extremely cold hardy. Rarely produces root suckers. EMLA 111 produces an early and prolific fruit crop.

**B118:**

A vigorous, semi-dwarf rootstock that produces trees roughly the same size as those grown on EMLA 111 roots. B 118 is from the same Russian program that created Budagovsky 9. Fairly resistant to fireblight. Very cold hardy. Keep growing area weed and grass free for the first five years.

**MM111:**

It produces a tree nearly standard in size. Adapts well to poorly drained soil and dry soil; doesn't sucker. Bears late and heavy, resists crown rot. 80%. Resists woolly apple aphids and collar rot.

**Notes:**

Varieties on P22, M9, M26 and MM106 usually begin bearing after 2-3 years of age. Varieties on M7 and MM111 take a year or two longer than the others to begin bearing. It is recommended that trees on M26 be planted 10-12 ft. apart if you don't employ one of the new orchard pruning systems. Trees on M26 and MM106 should not be planted in poorly drained clay soils whereas trees on M9 should not be planted in sandy loam soils.

Rootstock cont.

**Apple Interstem Rootstock:**

By adding an interstem of the G11 or M9 rootstocks between the MM111 rootstock and the scion variety it is possible to produce a free-standing apple tree which will grow in almost any soil conditions (thanks to the vigorous MM111 rootstock), yet is fairly precocious and not too large for the backyard gardener (thanks to the G11 or M9 interstem). Although we categorize this as producing a medium-size tree, the mature size is greatly affected by the length of the interstem so can be quite variable, and in practice this popular interstem combination often ends up being comparable to MM106.

**EMLA 9 / EMLA 111:**

This interstem combination uses the dwarfing growth habit of the EMLA 9 with the benefits of the EMLA 111 root system.

**BUD 9 / EMLA 111:**

This interstem combination uses the dwarfing growth habit of the BUD 9 with the benefits of the EMLA 111 root system.

**Almond, Apricot, Nectarine, Peach, Plum and Prune Rootstocks**

**Atlas:**

*Advantages:* extremely vigorous, nematode resistance similar to Nemaguard, productive, increases fruit size. considered well anchored, tolerant of saline and alkaline soil conditions.

*Disadvantages:* may be intolerant of wet soil conditions, delays fruit maturity in some varieties. Intolerant of dehydration in transplanting.

**Bailey:**

Originating out of Iowa, this is a relatively new rootstock for peaches. It has proven to be very cold hardy. It develops an abundant root system and is resistant to root lesion nematodes.

**Citation:**

Interspecific peach & plum-rooted cutting highly compatible with apricot and plum, induces early bearing, tolerant of wet soil conditions, resists root knot nematode, advances maturity and increases size and sugar content of fruit susceptible to crown gall, bacterial canker and oak root fungus, intolerant of virus with peach or nectarine.

**Empyrean® 2:**

A rootstock from Italy for peaches and nectarines. Tree vigor is about 70% of Nemaguard with good fruit size. It has root-knot nematode resistance and low sensitivity to lesion nematode. Some root suckers are produced. Empyrean 2 is reported to have tolerance to heavy, wet soils.

**Halford:**

A Lovell type seedling that produces a standard size tree which is adaptable to a wide range of growing conditions. Compatible with all commercially grown varieties with good disease resistance.

**Hansen 536:**

*Advantages:* Very vigorous, with excellent anchorage and few root suckers.

*Disadvantages:* Needs well-drained soils. Very susceptible to bacterial canker, phytophthora and oak root fungus.

**Ishtara®:**

This is a rootstock originating in France (not an exclusive rootstock of P2G) which appears interesting for peaches and nectarines. The rootstock has shown tree vigor about 70% of Nemaguard and enhanced fruit size in trials. There is root-knot nematode resistance and no root suckers. Anchorage on young trees is a concern. Ishtara was included in 1994 NC-140 peach rootstock trials. Ishtara is not likely a good rootstock for areas with high bacterial canker pressure. Compatibility appears excellent.

**Krymsk® 1 (VVA-1 cv) USPP#15,995:**

A promising rootstock for both European and Japanese plums and perhaps apricots, offering tree vigor reduction and good fruit size. Some fruit size enhancement may occur. Krymsk 1 has root-knot nematode resistance and some resistance to lesion nematode. Anchorage is good. Some root suckers are produced. This rootstock has been in the 2001 and 2002 NC-140 peach rootstock trial showing promise as a peach rootstock with high yield efficiency and enhanced fruit size. However, compatibility with peaches and nectarines needs further investigation. Krymsk 1 is not likely a good rootstock for areas with high bacterial canker pressure.

**Krymsk® 9 (Myrocot) PAF:**

This is a rootstock for apricots that has repeatedly advanced bloom a few days and has advanced fruit maturity four to six days. The tree vigor is about 60% of Citation. This is a cross of apricot and myrobalan plum. Krymsk 9 has root-knot nematode resistance.

**Lovell:**

More tolerant of wet soils than Nemaguard. Also more cold hardy. Susceptible to nematodes in sandy soils. For plums, peaches, nectarines, apricots, prunes, almonds.

**Marianna 26-24:**

Shallow root system, much more tolerant of wet soils than Lovell or Nemaguard. Resistant to oak-root fungus, root-knot nematodes. Mature trees comparatively small. For apricots, plums, most almonds.



Rootstocks cont.

**Myrobalan 29C:**

Shallow but vigorous root system. Tolerates wet soils. Immune to root-knot nematodes, some resistance to oak-root fungus. Trees reach larger size compared to Marianna 26-24. For apricots, plums, most almonds.

**Nemaguard:**

Vigorous, resists root-knot nematode. Excellent for well-drained soils. In poorly drained soil, plant on a hill. For nectarines, apricots, plums, prunes, almonds.

**Pixy:**

A further selection of St. Julian called Pixy producing a somewhat smaller tree than St Julian, and is also slightly more precocious - the tree will bear fruit about a year earlier than the same variety grafted on St. Julian. Trees grown on this rootstock will need staking for the first 4-5 years, and prefer better soil conditions and watering than trees on the St. Julian rootstock. Pixy can be considered roughly equivalent to the apple M26 rootstock in the size of tree it produces.

**Pumiselect:**

A hardy very dwarfing rootstock from Germany. Early bearing with a superior yield. Cold Tolerant.

**Siberian C:**

Semi-dwarfing rootstock with medium level of vigor resulting in a tree that is approximately 75 percent of seedling. Winter hardy.

**St. Julian "A":**

Semi-dwarf rootstock for cold areas with fluctuating spring temperatures due to inconsistent spring weather conditions. Preferred over Citation in north coastal mountains and Oregon. This clonal rootstock was developed many years ago by East Malling Research Station, England. It is compatible with all varieties of prunus trees by EM. Not a choice for apricots.

**Titan Hybrid:**

Titan almond x Nemaguard peach hybrid seedling. It is extremely vigorous, may have root-knot nematode resistance, considered well anchored, tolerant of calcareous soil conditions. The trees may be excessively vigorous on good soil, may delay maturity of fruit, more susceptible to crown rot than peach seedling rootstocks, intolerant of wet soil conditions.

**Viking:**

It is a vigorous, root-knot nematode resistance similar to Nemaguard, productive, precocious tree, increases fruit size, considered well anchored, less susceptible to bacterial canker than seedling rootstocks, tolerant of wet soil conditions, tolerant of saline and alkaline soil conditions. Trees on peach x almond hybrid rootstocks, including interspecifics, are very sensitive to dehydration. While planting, keep roots damp. Irrigate after planting.

**Cherry:**

**Adara:** A suitable rootstock for cherry cultivars to avoid root asphyxia in heavy soils and/or under flood irrigation conditions. Does well in calcareous soils.

**Colt:**

For sweet cherries. In heavy soils, trees are dwarfed to 70-80% of standard. Lesser dwarfing effect in other soils. Apparently resistant to bacterial canker. Relatively tolerant of wet soils (but good drainage still required). Trees begin bearing at young age. It produces a tree with a height of 3.5m - 5m, and tolerates poorer soils than Gisela 5 and needs less looking after. It's also useful for large cherry fans. Colt is roughly comparable to the apple MM111 rootstock.

**Gisela 5 (G5):**

Gisela 5 is rapidly becoming the rootstock of choice for gardeners who want a cherry tree with manageable proportions. It produces a tree about 3m / 10ft tall after 5 years or so (roughly equivalent to the apple M26 rootstock). Requires staking. Training against a wall or trellis works well with Gisela 5. It is important to provide good growing conditions, including regular feeding and watering, and to keep the area around the tree free from competing weeds or grass. Gisela 5 are reliable croppers.

**Gisela 6 (G6):**

Gisela 6 produces a slightly larger tree than Gisela 5, roughly equivalent to the apple MM106 rootstock. The main advantage over Gisela 5 is that it is much less fussy about soil conditions.

**Gisela 12:**

Gisela 12 is a precocious, semi-dwarfing rootstock produces a tree similar in size to Gisela 6. The tree structure is open, spreading and stocky. Gisela 12 has wide soil adaptability and does well on heavy soils. This stock is very precocious and productive. It has good virus resistance and no suckering problems. Gisela 12 is well anchored, but support is recommended.

**GM61/1**

Standard cherry varieties dwarfed to half-size, or about 15-20 ft. if not pruned. Relatively tolerant of wet soil. Trees begin bearing at young age. Trees on GM61/1 may be held to any desired height by summer pruning.

**Krymsk® 6:**

It is a precocious cherry rootstock that could be the replacement for the Gisela® series. It is semi-dwarfing, about 75% the size of Mazzard. May tolerate heavier and wetter soils than Mazzard or Mahaleb.

Rootstocks cont.

**Krymsk® 5 (VSL-2 cv) USPP#15,723 and Krymsk® 6 (LC-52) USPP#16,114:**

Precocious cherry rootstocks with vigor, using Bing, similar to Gisela 6 and Gisela 12, respectively. In California, flower densities are lower than densities on Gisela, resulting in more balanced fruit loads with productive varieties. Yet even with lower flower densities, trees produced a crop equivalent to Gisela this year in a region of the Pacific Northwest with reduced fruit load caused by frost. Virus-free bud wood must be used due to the virus sensitivity of these rootstocks. These rootstocks also produce some root suckers. Anchorage appears good.

**Mahaleb** (Prunus Mahaleb):

Hardier but shorter living than Mazzard. The most winter hardy of the commonly used cherry rootstocks. Considered one of the best rootstocks for sweet or tart cherries. Sweet cherries slightly dwarfed, no dwarfing effect on sour types. Makes a large tree. Induces early, heavy bearing drought tolerant, and highly productive. Its anchorage is excellent. It is susceptible to oak root fungus, root knot, and especially phytophthora. It is somewhat resistant to crown gall, some nematodes and resistant to bacterial canker and root lesion. Prefers light sandy soils and will not survive on wet or heavy soils.

**Clonal Mahaleb's Compact 159-5:**

Survival comparable to standard Mahaleb. Tree size reduction by approximately 15% compared with standards. Suitable for higher density plantings, increased yield efficiency. Low root and trunk sucker production. Precocious fruit flowering and fruit production. Fruit size, yield comparable to or greater than standard. Low doubling, spurring and deep suture production even with smaller tree. Has advanced bloom in some seasons with Bing variety.

**Maxma® 14:**

[70-75%]--- This hybrid rootstock is a cross between Mazzard and Mahaleb. Rated 20% - 25% more dwarfing than Mahaleb. Bred in the USA. Reported to be compatible with most sweet cherry varieties, precocious and productive. Tolerant of wet soils and iron chlorosis resistant

**Mazzard** (Prunus Avium):

This rootstock produces a vigorous, large tree with very good anchorage. It is most compatible with sweet cherries. It tends to resist common cherry diseases better than Mahaleb. It has some tolerance to phytophthora and is moderately resistant to oak root fungus. It grows best in sandy loam soil, but tolerant of heavy soils. more tolerant of wet soils than Mahaleb (but good drainage still required) It is susceptible to

crown gall and bacterial canker, but it is resistant to water stress, and oak-root fungus and root knot nematodes. Overall, Mazzard makes a very large and hardy tree with few root suckers.

**New Root 1:**

Dwarfing rootstock for cherries. Dwarfs cherry trees 8 to 12 feet unpruned. Ideal for container growing. Promotes early bearing. More versatile than Mazzard and Mahaleb. Better adapted to clay soils than Mazzard and Mahaleb. Tested as 3CR178.

**Performer 156-5:**

Survival rate at all test sites, (higher than standard Mahaleb), slightly below Shilo. Low root and trunk sucker production. 705 height of Mahaleb. Precocious, early high yields with Bing variety. Likes sandy soil, does not tolerate heavy, wet soils. Moderately resistant to Phytophthora, some resistance to crown gall, resistant to bacterial canker. Not recommended for Chelan or Tieton varieties. Preferred Gopher food.

**Puente™ :**

This is a plum interstem that can also be used as a rootstock, particularly in heavy soils, and has broad sweet cherry compatibility. As an interstem, Puente facilitates the use of many different rootstocks for sweet cherries.

**Shilo 155-1:**

100% survival at all test sites with low root and trunk sucker production. Full size tree comparable to standard seed-produced Mahaleb, vigorous with fruit size yield comparable or greater than standard. The rootstock showing superior resistance in these stem inoculation and soil-flooding test were propagated vegetatively, then budded with Bing variety and field-tested since 1995.

**Weiroot 13:**

Of moderate to high vigor, Weiroot 13 grows 70% to 80% the size of F 12/1. Mature tree height is 12 to 18 feet, depending on the training system utilized. Precocity is good as well as fruit size. It exhibits good anchorage and does not need staking. A good choice for poorer soils.

**Weiroot 154:**

A moderate vigor rootstock exhibiting 50% to 60% the vigor of F 12/1. This rootstock is quickly gaining favor in Germany since it combines the best yields with good fruit size. Central leader trees on this stock typically grow 12 to 15 feet tall. Best results are obtained on good soils. No support is necessary.

**Weiroot 158:**

An intermediate size rootstock growing 40% to 60% the size of F 12/1. Trees can be held to 10-15 feet.



Rootstocks cont.

This is the most popular Weiroot stock in Germany. It exhibits good precocity, although somewhat less than Gisela 5. Fruit size is good and the propensity for ripening one or two days early that is exhibited by Gisela 5 does not seem to be a problem with this rootstock. Weiroot 158 does not generally need to be staked.

**Weiroot 53:**

A weak-growing stock producing trees 30% to 50% of F 12/1. This rootstock should only be grown in good soils to prevent growth problems. Properly managed, this stock can provide high early yields with good fruit size. Staking is recommended.

**Weiroot 72:**

The lowest vigor stock, producing trees 25% to 30% the size of F 12/1. The potential tree height is only 6 to 9 feet tall. Trees are very precocious and fruit size is slightly smaller than that produced by the other rootstocks listed above. This rootstock requires excellent soil and optimum tree, soil, nutrition and water management to maintain fruit quality. Trees need to be supported.

**Zee Stem on Citation; an interstem Advantage:**

Allows cherry growers to use appropriate peach/plum/almond rootstocks for the planting location, precocious and dwarfing when used with Citation rootstock. Improves fruit quality. Crop management may be needed on precocious varieties during early years. Not drought tolerant.

**Pear**

**Domestic Seedling Pear:**

The most widely planted pear rootstock typically produces a vigorous tree with strong, well-anchored roots. Tolerates a wide range of soil conditions, moisture content and texture. Winter hardy. Typically a large tree. Will also see under this category the names **Bartlett Seedling** and **Domestic French**.

**Betulaefolia:**

For Asian pears. Very vigorous, tolerates wet soil, dry soil, alkaline soil. Resists pear decline. More vigorous than Calleryana, and more winter hardy. A number of extensive field trials have shown that fruit size is increased significantly as compared to other rootstocks. Makes a large tree.

**Calleryana:**

For flowering pears and Asian pears. Preferred rootstock for warm winter/hot summer climates and for sandy soils. Also adapted to wet soils. Asian pear varieties slightly dwarfed, bear heavily at young age. Also makes a larger tree.

**OHxF333:**

A semi-dwarfing pear rootstock for European and Asian Pears. It is 1/2 to 2/3 standard size, about 12-16

ft. Its resistance to fireblight, collar rot, woolly pear aphids and pear decline make this a very healthy stock. Precocious, well-anchored. Trees are very productive. Some reports that fruit size is reduced. Widely adapted

**OHxF 40®:**

A semi-vigorous pear rootstock, about 2/3 standard size. Resistant to fire blight, crown rot, woolly pear aphids, and pear decline. Precocious, well-anchored. Patented; royalty 50¢

**OHxF 513:**

A semi-vigorous pear rootstock, about 2/3 standard size. Resistant to fire blight, crown rot, woolly pear aphids, and pear decline. Precocious, well-anchored.

**OHxF 87™:**

It makes a tree slightly smaller than Bartlett on seedling root, about 2/3 size. Well anchored. It is considered a semi-dwarf tree. OHxF 87™ is one of the best producing rootstocks of the OHxF series and was selected for this reason. The OHxF selections are compatible with most pear varieties and are known for their tolerance to fireblight, crown rot, woolly pear aphid, and pear decline.

**OHxF 97:**

A vigorous pear rootstock. Standard size, but more precocious and productive than seedling stocks. Appears to be especially valuable for Asian pears. For European, Asian and flowering pears. Vigorous, widely adapted, disease-resistant. Winter hardy, tolerant of wet soils. A clonal rootstock of Old Home x Farmingdale, this rootstock is resistant to pear decline and fireblight. It is a superior rootstock for vigorous pear trees. Hardy and resilient to cold. It provides good anchoring and yield efficiency.

**Provence Quince (BA 29-C):**

Originating from France, this is a high yielding dwarfing rootstock. It produces trees approximately 1/2 to 2/3 the size of a standard pear tree. Roots well and produces good quality trees. Resistant to crown gall, nematodes, pear decline and root aphids and calcareous (limestone) soil types. It does show some susceptibility to fireblight.

**Pyrodwarf (USPP #11,041):**

Pyrodwarf® is a new *Pyrus communis*, precocious dwarfing rootstock. It is an Old Home x Bonne Luise cross made in Geisenheim, Germany, in 1980. Pyrodwarf® starts bearing in the 2nd leaf and produces a tree about 50% smaller than OHxF 97. There is no significant reduction of fruit size, and the trees reach full bearing in 5 years. Pyrodwarf® has no root suckering, has moderate resistance to fireblight, and has good winter cold hardiness.

Rootstocks cont.

**Pyro 233™ :**

(CV. RHENUS 3 PEAR ROOTSTOCK USPP #12,771) Pyro™2-33 is a new *Pyrus communis* precocious rootstock with similar vigor to seedling and OHxF 97. Old Home x Bonnie Luise cross made by Dr. Helmut Jacob at Geisenheim, Germany, in 1980. Pyro™2-33 starts bearing in the 2nd leaf and starts heavy pear production 2 years earlier than OHxF clones.

**Quince A:**

It will give you a tree about the size of an apple on m-26. Resistant to Pear Decline, Crown Gall and Mildew, pear decline

**Quince C:**

It will give you a tree about the size of an apple on Bud-9, about 6 - 8 ft. tall.

**Winter Nellis:**

This seedling is slightly more vigorous than Domestic Seedling Pear and slightly more winter hardy than **Betulaefolia**. It produces vigorous and well-anchored trees. For European and hybrid pears. Relatively tolerant of wet soils. Resistant to oak-root fungus. Long-lived trees reach 20-25 ft.

**Sources**

This paper was prepared from the following sources:

Boyer Nurseries & Orchards Inc. Biglerville, PA  
Columbia Basin Nursery, Quincy, WA  
Cummins Nursery Ithaca, New York  
Duarte Nursery, Baldwin, CA  
Four Mile Nursery, Canby, Or  
Hartmann Fruit Tree Nursery Puyallup  
Pacific Groves, Inc. Pacific Grove, CA  
Van Well Nursery East Wenatchee Washington  
Willamette Nursery, Canby Oregon  
Dave Wilson Nursery Hickman California  
ars.usda.gov  
fruitforum.net  
grandpasorchard.com  
Lynn Long, Oregon State University, Corvallis, Oregon  
orangepippin.com  
science-in-farming.library4farming.org  
Wikipedia

Prepared by Lowell Cordas, STFS Chapter  
January 9, 2012

\* \* \* \* \*

## Chapter News

**North Olympic Fruit Club** members paid attention in January to authors Dr. David Deardorff and Kathryn Wadsworth as they talked about "Making Your Garden Work for You." Most interesting was the concept of moving away from row plantings and monocultures and using square foot single arrangements and interplantings to confuse and help thwart pests. Members met earlier in the evening in February and held a brainstorming session while enjoying dinner. Ideas for the future of the club were suggested and the meeting was productive. While members dined and chatted, their pruning tools were being sharpened by local tool whiz, Sasha. In addition, Dakota, an artistic Port Townsend High School student presented his slide renditions for a chapter logo, simple but elegant. The completed logo should be ready for the March meeting which is also the club's traditional grafting workshop and scionwood exchange. Donations for scions are still only 25¢. Members who joined NOFC at the summer county fair will have their trees grafted. NOFC members are expecting the arrival of two new and improved experimental rootstocks for semi-dwarf apples and pears. With a few hundred trees to graft this season, it's going to be a busy spring in Jefferson County.  
Judi Stewart, NOFC President

\* \* \* \* \*

**Olympic Orchard Society** started the New Year with a program on Organic Gardening Made Easy by Wanda Horst, Earth CPR Supplies. Wanda and Len educate customers about conserving, preserving and restoring the environment with their organic gardening supplies. It's all about microbes, fungus and bacteria in the soil, and bringing everything into balance, which equals fewer problems. For info: 683-8426. In February we met with Sequim Organic SeedSavers and brought heritage seeds to share. March winds ushered in our Pruning Workshop with our own Gordon Clark, certified arborist. Gordon is a charismatic speaker and promotes organic landscape management. Our Scion Exchange and Grafting Workshop is March 24. Following will be our Sequim High School Grafting Workshop in which horticultural students learn to graft and nurture their trees. Over the last eight years OOS has contributed more than 200 fruit trees to the Sequim community through this educational program.  
Marilyn Couture, OOS Co-Pres



## Seattle Tree Fruit Society

President's Message, Paul Mallory

Another Puget Sound winter is on the way out. I have to say that, during my 35 years here, the fruit shows, the flower and garden shows and the home shows were what got me through the long, gray winter. The images of sunshine and flowers reminded me of brighter days ahead.

In January the Seattle Tree Fruit Society started off with an ambitious, if chilly Saturday in Magnusson Park. Elections brought a new member to the Board, me, and the opportunity for all to see the best of what STFS offers the community. The real fun, for an orchardist of course, was pruning, making bio-char and wassailing with the best hard cider around, all in the wind and the rain. Thanks Lori for bringing it all together.

The Seattle Flower and Garden show would probably have had a greater turnout than last year but for some really miserable driving weather early on. Turnout was only slightly less than last year but, for my money, the show was improved. The STFS booth was very capably coordinated by Ingela Wanerstrand. Often when things go smoothly we forget how much work went into making that happen. Thanks Ingela.

Lori Brakken has been deeply involved in the building the Apple Id program, with meetings in Portland, Silverdale and Seattle. In between our own events we were well represented by members involved with Friends of Piper Orchard and Greg Giuliani's "Fruit Trees to Plant Now" at Sky Nursery. Plant Amnesty's "Prunathon" brought together Ingela, Lori Brakken, Mike Ewanciw and Hildegard Hendrickson. We were well represented at Western Washington Fruit Research Foundation's Winter Field Day March 3<sup>rd</sup>.

Our membership is now involved in putting together our Spring Fruit Show for March 24 at Sky Nursery on Aurora Ave North. Laure Jansen is assembling a huge assortment of scions, apples, pears, quince, various stone fruits and grapes. Later in the day will be the Board meeting of Western Cascade Fruit Society. So ... We'll see you there.

Paul Mallory, STFS

\* \* \* \* \*

### **How to tell if fruit is genetically modified, organic, or grown with chemicals**

<http://www.plantea.com/genetically-modified-foods.htm>

## Peninsula Fruit Club Chapter News

Peninsula does not meet in Dec. We started off the New Year with a record attendance of about 50 members who came to hear Ken Miller from Vashon Island Fruit Club give us a great presentation about biochar. Several members have already started making biochar, and we are anxious to see how much it helps our gardens and orchards. We held our first winter pruning workshop on Jan. 28 and worked on both very young and old trees. In February, we have held blueberry pruning workshops to teach the Master Gardeners and our club members how to prune blueberries. At our February meeting, we learned a lot of information from PFC member Steve Butler about organic and non-organic sprays that are available to help in the pest and disease battle. We will have another older tree pruning workshop on Feb. 18 and will be teaching grafting to the Fox Island Garden Club on March 8. At our March meeting, we will teach grafting to the new members and do some planning for our Spring Grafting Show, which is coming up on March 17 at the Silverdale Community Center. See the WCFS website for details: <http://wcfs.org/?p=1078>. Later in March we will be teaching grafting to several classes of kids at Klahowya Middle School. At our April meeting, we will be talking about pollinators, and we will have our annual member plant sale at the May meeting.

Jean Williams, PFC President  
\* \* \* \* \*



Lowell Cordas and Tahoma Chapter Pres Henri Carnay discuss the superb pruning tools that were displayed and sold by Lowell's Tools at the January, 2012 meeting.

**Tahoma Chapter News**

We wondered if there were any members who desired: GOOD ANNUAL PRODUCTION OF HIGH QUALITY FRUIT WITH LESS PRUNING. Obviously, we already knew the answer; this is what we ALL strive for!!! So, the Chapter invited Lowell Cordas to introduce us to the French based Solaxe training system. Unlike the U.S. where virtually no growers use it, this technique has taken hold in Chile where more than 80% of the apple and cherry orchards are trained using the Solaxe concept. Just what IS the Solaxe training system? An Oregon State University pamphlet describes the Solaxe system as growing trees as a central leader with branches tied down to remove vigor and encourage precocity. As the tree grows, the top is bent to the horizontal so the maximum height can be maintained. Upwardly growing branches are seldom pruned except to remove young limbs that are too closely spaced. The objective is to have an open area down the center of the tree that allows for good sunlight penetration to the lower branches. Solaxe can work for trees of any size. Once hooked, the Chileans spent a lot of time and money transforming older orchards and establishing newer orchards. It was tons of work, but high quality fruit has been the result. Better to start Solaxe when the tree is young. By asking "how high are you willing to pick", Lowell illustrated how the Solaxe method will increase fruit quality, control pests, and make spraying and harvesting easier. I feel the potential for diseases would be reduced also, due to better light and air circulation. While the trees bought by U.S. growers continue to be more suitable to the traditional tall spindle system, will the Solaxe be the choice for WCFS members? You decide. Lowell Cordas, 360-456-7367,

[SLCORDAS@yahoo.com](mailto:SLCORDAS@yahoo.com)

Chuck Polance,  
Tahoma Chapter

\* \* \* \* \*

**Great Grilled Sandwich**

On your choice of bread

Layer and Add: grilled onions and grilled apple slices, cheddar or pepper jack cheese, plenty of pesto. Butter on both sides and grill as you would a grilled cheese sandwich. Delish!

Anna Swanberg, OOS

**WCFS OFFICERS AND BOARD MEMBERS**

President	Vacant
Vice President	Ron Weston <a href="mailto:ronweston09@comcast.net">ronweston09@comcast.net</a>
Secretary	Vacant
Treasurer	Dave Hanower <a href="mailto:dhanower@me.com">dhanower@me.com</a>

**Directors**

2012	Sally Loree <a href="mailto:SAL@wavecable.com">SAL@wavecable.com</a> Loretta Murphy <a href="mailto:lojodc@yahoo.com">lojodc@yahoo.com</a> Hildegard Hendrickson <a href="mailto:hildegard@seattleu.edu">hildegard@seattleu.edu</a>
2013	Erik Simpson <a href="mailto:orchards@olympen.com">orchards@olympen.com</a> Steve Vause <a href="mailto:svause@teleport.com">svause@teleport.com</a> Del Simpson <a href="mailto:orchards@olympen.com">orchards@olympen.com</a>
2014	Bill Horn <a href="mailto:hornbill66@msn.com">hornbill66@msn.com</a> Jerry Gehrke <a href="mailto:bercogehrke@comcast.net">bercogehrke@comcast.net</a> Patti Gotz <a href="mailto:plsgotz@comcast.net">plsgotz@comcast.net</a>

**Chapter Presidents**

Olympic Orchard	Erik Simpson, Co Pres <a href="mailto:orchards@olympen.com">orchards@olympen.com</a> Marilyn Couture, Co Pres <a href="mailto:couture222@msn.com">couture222@msn.com</a>
North Olympic	Judi Steward <a href="mailto:js@olympus.net">js@olympus.net</a>
Peninsula	Sally Loree <a href="mailto:SAL@wavecable.com">SAL@wavecable.com</a>
Seattle Tree Fruit	Paul Mallary <a href="mailto:seattletreefruitsociety@hotmail.com">seattletreefruitsociety@hotmail.com</a>
Snohomish County	Jack Haines <a href="mailto:jkhaines@frontier.com">jkhaines@frontier.com</a>
South Sound	Francesca Ritson <a href="mailto:ritson@hotmail.com">ritson@hotmail.com</a>
Tahoma	Henri Carnay <a href="mailto:hcarnay@comcast.net">hcarnay@comcast.net</a>
Vashon Island	Elizabeth Vogt <a href="mailto:eavogt@comcast.net">eavogt@comcast.net</a>