

# the BeeLine

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Newsletter of the Western Cascade Fruit Society



## MASON BEES

By David Hunter, Seattle Tree Fruit Society

There are a variety of names for a common and native northwest pollinator; the mason bee, the blue orchard bee, or the *Osmia lignaria*. As an orchardist, I'm sure you've heard more than one talk on this unsophisticated garden/orchard helper. If not, let me start by highlighting the difference between a more well know pollinator, the honey bee.

**Hierarchy:** While the honeybee is highly structured with a queen, drones, helpers, sentries, foragers, etc., the mason is quite simple; they are female and male. Each female is essentially the queen and performs all tasks herself; foraging for food, egg laying, mud placing, etc.

**Pollen gathering:** The honeybee is a very effective pollen gatherer. Honeybees place the pollen securely on her back legs and as a result, little pollen falls off on her trip through the flowers. The mason bee, however, is an extremely ineffective pollen gatherer. She rubs her abdomen on the pollen hoping to have it stick to her bristles. As a result, this messy-looking mason bee has pollen falling off all along her trip through flowers back to her hole. She winds up being a significant pollinator in comparison to the honeybee.

**Number needed to pollinate an almond tree:** Because the mason bee is so effective of a pollinator, the number of females per acre needed to pollinate a mature crop is astounding. A mature honeybee hive of about 100,000-120,000 bees, is placed to pollinate one acre of almond trees (roughly 110 trees). With about 60,000 bees foraging, that's almost 545 honeybees needed per tree. In contrast, only about 800 females are needed to pollinate the same acre, or about 7 mason bees per tree.

**Longevity:** While a honeybee hive is active year around, the mason bee is only active between the first few weeks of April through the end of May. The males live about two weeks, while the females will live about six weeks. The mason bee is only effective in pollinating the early crops like almonds, apples, cherries, pears, earlier blueberries, etc. It is possible to delay the emergence of the mason bee into May, which then has her available for June crops. I haven't investigated this opportunity yet.



Honey Bee on flower



Mason Bee in the grass

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**Gentleness:** Since the mason bee has little to defend other than an egg in a hole, she rarely stings. My son years ago once grabbed one in his hand and shook it vigorously until finally he was stung. I understand the venom is mild, and the incident was more a "life lesson" than a race to bathroom for ointment relief.

**General Interest:** I find the mason bee nest a distraction to my own productivity. When I walk past a nesting block, I catch myself ten minutes later still watching who's going in which hole. I suggest the same fascination might occur with honeybees, though the sheer numbers may tend to become commonplace. It's possible I'm biased.

#### **How to encourage mason bees in your yard**

If you have food and shelter, you attract visitors. Early pollen producing plants or fruit/flowering trees coupled with any hole that is about 5/16" in diameter are all that you need to start your own colony. You can purchase mason bees in January – February, though I suggest they'll come naturally. Here's an analysis of various "nesting houses":

**Cedar shakes** on your roof or side walls or holes in trees are simple and natural. You certainly can't control what occurs with this population, but it is extremely cheap!

**Drilled holes in lumber.** This is very common, cheap, and seemingly easy to grow a colony. However, this is probably the unhealthiest environment for the mason bees as a few things occur: Pollen mites love pollen and transport on the backs of females from the flowers. They rub off and immediately begin a race against the bee larvae to see who gets the most pollen first. Mites win about 30% of the time in a clean hole, resulting in larvae death due to starvation. In a dirty hole, where the mites remain from the previous season, about 60-70% of the mason bees die. Although the drilled block of wood is the easiest to build and the most common, I don't recommend it.

**Blocks with inserts.** The same drilled hole block with straw inserts (or rolled up parchment paper) is still cheaper, but a bit more work. Using fresh inserts each year allows you to have a relatively cleaner environment for the mason bees.

**Tubes with inserts.** This is a bit more costly, but follows the same principle as the blocks with inserts. This is what I am doing commercially as it allows me to handle more straws with less effort.

**Molded blocks.** This is the most expensive, but over the long run, will cost less than inserts. However, mites still forage for pollen in here, and the cocoons need to be removed and the molds cleaned annually. I have opened several people's molds lately and found 70% loss in there.

#### **Ideal placement of the mason bee block**

The mason bee loves warmth and a drier home. The warmest place on your house is the south exposure due to our more northerly latitude. Under an overhang works best. The bees will be seen mating or just hanging out in the sun on your wall.

I would keep the block higher than raccoon reach, but about head level (6-7') so that you can watch what's going on. Having a mason bee bounce off your head the first time or two can be unsettling, but more of an adventure than concern!

#### **Parasite control**

**Mites:** as mentioned above, mites are part of nature and while washing the cocoon has been recommended by others, you're really just washing off the mite fecal matter as the mites have large claws and tend to hold on tight to the cocoon. Truth be told, the damage has already been done (starved larvae.) A relatively new technique is to dehydrate the mites so they can't survive. I have a process that performs this well resulting in healthy bees and zero loss due to mites. (see my program on page 3)

**Parasitic wasps:** The monodontomeris is a parasitic wasp that lays their egg in the mason bee egg. This results in about a dozen little larvae unfortunately housed in a cocoon that looks like a mason bee's. These pesky wasps can have a steep toll on your mason bee population. Solutions? You can visually examine each egg and find them by touch (more flexible cocoon wall) or trap them as they emerge. The monodontomeris emerges in May, about a month after the mason bee. If you are using straws or loose cocoons, by placing them in a clear bag, you'll see these small wasps emerge along with a few late mason bees. I separate them through putting the bag in the freezer for 10 minutes, then pulling out the mason bees by hand and squashing the wasp.

For further information and assistance with your mason bees you can contact me at (206) 851-1263 or email me at [huntersmasonbees@comcast.net](mailto:huntersmasonbees@comcast.net)



## MESSAGE FROM OUR PRESIDENT

By Mark Youngs, Seattle Tree Fruit Society

Springtime is busy for growers of plants. During this last week of good weather I was able to apply the dormant Bordeaux spray to combat fungus, especially Peach leaf curl. We planted cold weather vegetables in the greenhouse, fertilized and mulched the fruit trees; the lime will have to wait until later. Your schedules are probably just as hectic, but somehow the excitement of another spring growing season keeps us all going. Organized task schedules are the key.

Our Treasurer informs us our organization is being blessed with prosperity. WCFS funds left over after deducting our expenses has increased to the point of financing some additional research. In the past we have directly funded worthwhile WWFRF research efforts in Mount Vernon. Some members of the Board of Directors have expressed interest in

funding a research project Judi Stewart is putting together directly with WSU in Mount Vernon. This project will evaluate Cherry rootstocks in our individual areas, specifically Krymsk 5, Gisela 5, and the new Gisela 3 which I'm told is more dwarfing yet. Some variety trials will most likely be included at the same time.

Here's your chance to be directly involved with a research project that is funded in part by your WCFS dues. To make this happen, we need 20+ locations to grow these experimental trees. The specific details will be provided by Judy in the near future. The research will probably be over a five year period and after completion you will keep the trees! If you or someone you know is interested in participating, please contact your chapter President. Let's make this happen!

## HUNTER'S MASON BEES PROGRAM

By David Hunter, Seattle Tree Fruit Society

The fruit crops need help soon. Colony Collapse Disorder has not been solved and within a few more years, our fruit productivity will be impacted. We need to get millions of mason bees as an alternative to these industries.

My business is to use the "urban farm" (you) as a source for producing mason bees. I will be coordinating over 600 gardeners from Port Townsend to Snohomish, and Vashon Island to Puyallup to rear mason bees.

Each year, I'll supply a partner with 200-300 mason bees in March, and collect them in June for mite eradication. I harvest them in September and house them in a refrigerated environment through the winter. Partners get to participate in harvesting if interested!

Why is this a win/win? This is free for my urban gardener partner! The gardener has fruit trees pollinated and gets to watch a fascinating insect. Their excess bees are given to other gardeners/fruit owners to use/enjoy. Finally, I'm able to sell the excess to the almond or Washington fruit orchards.

At this time, all of my mason bees are obligated for 2009. However, existing mason bee owners are partnering with me now. I'm able to shift their bee population to my nesting blocks, and will bring them back more bees which will be in much better health. If interested, either call me at (206) 851-1263 or email me at [huntersmasonbees@comcast.net](mailto:huntersmasonbees@comcast.net)

The Spring 2009 Beeline was produced by Editors Marilyn Couture and Carlyn Syvanen, with input from membership.

Please contribute your articles for our next issue!

### **Issue Deadlines:**

**Summer May 15; Fall August 15; Winter November 15; Spring February 15**

Email your articles to:

Carlyn Syvanen, [carlynbee@teleport.com](mailto:carlynbee@teleport.com) or Marilyn Couture, [couture222msn.com](mailto:couture222msn.com)

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**HOMESTEAD APPLE PRESS**

By Erik Simpson, Olympic Orchard Society

For years I used the Homestead Family cider press but was not totally pleased with its design and performance. During this time, the Homestead family business was purchased by Happy Valley Ranch and the business moved from Eastern Washington to Kansas. They changed to cast iron parts which made it more expensive and only added weight making it difficult to move.

About fifteen years ago Preston Smith purchased the plans and built the original Homestead cider press design. He modified the plans slightly by lowering it, beefing up the design to make it more sturdy. He put on an ACME screw and wood handle to increase the leverage and make it easier to turn. He later added a motor with a separate shelf. Preston now uses white Maplewood, stainless steel screws, a Mahogany trim and ½ horsepower motor to achieve the rpm's needed to grind up the apples and pears.

For the past ten years, Preston has been making only two or three presses a year from the original design with his modifications. He sells his press locally for \$500 for very little profit because he simply enjoys making and tinkering with them. Last year, I purchased one of his apple presses and have been very satisfied with it.

Preston Smith is the Farmers Insurance Agent in Sequim. His work phone is 360-582-9538 He will take orders after March of 2009.

**WCFS NEW MEMBERS****Peninsula**

Ed & Diane Cuaron  
Ann & Helen Daly  
Daphne Lee-Larson  
Cindy Mills  
Diane Watrous

Robin & Jeff Robertson  
Elizabeth Rothman  
George Sage  
John Samaras  
Michelle Scannell  
Alexis Vanden Bos  
Elizabeth Waddell  
James Werle  
William Wolfe

**Seattle Tree Fruit Society**

Plant Amnesty  
Steve Brustkern  
Barbara Burrill  
Betsey Cotter  
Richard Davis  
Ralph Federspiel  
Sharon Fields  
Dianne Green  
Laure Jansen  
Jay Johnston  
Sandie Jones  
Harvey Jones  
Daniel Kerlee  
Cecilia McGowan  
Regine Neiders  
Heather Paar  
Roger Padvorac  
Gini Paulsen

**South Sound Fruit Society**

Carol Ames  
Jan and Susanne Clossen  
Roger and Kitty Carlsen  
John Miller  
Pearl Singleton  
Sandia Slaby.

**Vashon Island**

Alice Burns & Rachel Larson  
Kyle & Cynthia Cruver  
Wally Fletcher  
Don & Mary Harlander  
Diane Inman & Verne Johnson  
Kathy & Sam Sherer

On the slope behind the house today  
I cut through roots and rocks and  
Dug a hole, deep and wide,  
Carted away from it each stone  
And all the friable thin earth.  
Then I knelt there a moment, walked  
In the old woods, bent down again, using  
A trowel and both my hands to scoop  
Black decaying woods-soil with the warm  
Smell of fungi from the trunk of a rotting  
Chestnut tree—two heavy buckets full I carried  
Back to the hole and planted the tree inside;  
Carefully I covered the roots with peaty soil,  
Slowly poured sun warm water over them,  
Mudding them gently until the soil settled.  
It stands there young and small,  
Will go on standing when we are gone  
And the huge uproar, endless urgency and  
Fearful delirium of our days forgotten.

From *Hours in the Garden* by Hermann Hesse



## VOGEL'S VIEWS

By Phil Vogel, South Sound Fruit Society

I have been aggravated by a 13 year old toilet in the house I bought three years ago. The holes in one side of the bowl closed up because of all the minerals in our water. (In fact I bought a new one to install which is in the garage). However, I read somewhere that if a person surrounds the toilet inlet pipe with magnets that the minerals in the water will not precipitate out. So I went to Harbor Freight and I did that about four months ago and the holes on the right side opened up and required much less cleaning because that side was not 'dry'. Moreover, the mineral buildup in the bowl in general is diminishing.

I then decided to take this a step further and surrounded the street-to-house pipe with magnets also in order to reduce the lime buildup in the hot water heater. Time will tell.

I have good reason to believe that the minerals-



in-suspension will be advantageous to lawn, garden and fruit trees. I think that the minerals will be more available to the plants and also increase hydration of the plants. This summer we in Thurston County will probably experience some drought. This may give an edge.

I am sick and tired of cleaning the mud out of my work shoe tread soles. So I clean them really well and then sprayed silicone spray on the bottoms especially in the lug and crack areas. Please be careful for the first 50 feet so that you don't slip and fall on your duff. I am hoping that this works.

Want to keep the crows out of the ripe fruit? Bring on the "blue army" Jays, hang suet in the fruit trees. I was told this by one of our members, Deb Crane. I haven't tried it, but will probably do it this fall.

## PURCHASE PLANTS FROM BIG BOX STORES OR LOCAL NURSERIES

Reprint from Horticulture, Hortmag.com, April, 2009,

Edited and submitted by Marilyn Couture, Olympic Orchard Society

Why are plants available at the big box stores considered not as good? Some very good nurseries grow plants for the big box stores, but buying from national chains can be a complicated issue.

These stores have a pay-by-scan policy where the grower is not paid for the plant until it sells, which often means the store suffers no loss if the plant dies from lack of water. This has led to many growers hiring field representatives to go into stores and care for their nursery stock. This keeps up the quality of the plants, but as it becomes more expensive for growers to serve the big stores, the temptation is to simplify the inventory to the most profitable.

While some of the chains have knowledgeable personnel that do the ordering and provide customer service, many do not. Plants may not be regionally appropriate, and you may not find anyone to answer your gardening questions.

Advantages to the big stores include the long hours open for shopping, and the unquestioned

plant guarantee. Most local garden centers have been forced to provide the same guarantee to stay in business, which is patently unfair, since in most cases the customers have taken the plant home and killed it. Big chains pass the loss back to the grower, so they are once again not accountable, while the local proprietor must eat the loss.

Besides, shouldn't we apply the locavore concept to the plant industry as well as the food? We should hope that money spent locally stays in local circulation and the community will benefit. Besides, it's usually the small, individually owned nursery that has the coolest, newest, weirdest plant, not just the most profitable. It's up to gardeners to ensure that these places stay in business.

### HOUSEPLANT HINT

Use Simple green on all houseplants to control aphids, mites, etc. Douse cacti, African violets, etc. using a formula 1:10 H<sub>2</sub>O (parts water).

**CHERRY ESPALIER?**

By Lori Brakken, Seattle Tree Fruit Society

I would like to try this technique for Sweet Cherries this year. It's an espalier of sorts for cherries and combines information from both a phone interview with Bob Norton (2/15/09) and a HOS Pome News Winter 2009 article by Lynn Long on the Spanish Bush System for Growing Cherries. I'll see if my idea works and will get back to you.

What I'd like to do is graft different varieties of Sweet Cherries onto Gesla 5 rootstock – one variety per rootstock. Plant them 3' apart at 45 degree angles in a line, all facing the same way, with the most buds possible along the top side of the stem (facing up). As the buds develop, I will rub off the buds not facing up. You want 4-6 buds facing up eventually. These will grow into vertical branches that will spur and produce fruit. The height of the 4-6 bud branches after a season of growth would be cut back to 12 inches. They should start to spur and grow 30" the next season. Cut the 30" of growth down to 16" for the third season of growth. From now on the cherries will produce fruit on branch spurs for 2-3 years (I hope). I will lighten up on the pruning in the third season and allow new branch buds to form at the base for future replacement of the branches fruiting now. Prune



for good air and light in the branches. Judge the fruit load on the branches and shorten branches (called a 'heading cut') to remove excess fruit. After producing 3-4 years, I will cut one quarter of the producing branches to 2-6" stubs – these also will produce new buds. I will keep the trees low enough to not need a ladder and narrow enough to make a hedge. I will keep you informed as to what happens.

Update to article: 3/18/09

When I was at the HOS Scion Fair, a person at the rootstock table talked me into using Mazzard rootstock instead of the one I was going for. I don't know if I'll regret it. The place I am planting is a steep hillside and the roots need to be tenacious. I was hoping for the Mazzard's ability in that area. I grafted my cherries today(3/18/09) and have them potted up. I had bought 8 Mazzard rootstocks and cut the root-zone in half depth wise which gave me a thought to try grafting onto these cut root stems. That doubled my rootstock and I have 16 grafted cherries now.

2 Lapins	1 Governor Wood
2 Rainier 3,7	1 Bing
2 Hartland	1 Royal Ann
2 White Gold	1 Danube Hungarian –
2 Bigarreau	Tart Pie/Fresh eating
2 Lambert	

**APPLE CHERRY COBBLER**

By Carlyn Syvanen

At this time of the year I try to use as much from the freezer as I can so I will have room for the fresh new produce which I know will come.

I was not pleased with the cherry pies I had made earlier this year and so this past week when I took a package of cherries out to thaw I decided to do something different. I mixed the cherries with an equal part of our Melrose apples to make a cobbler. (Yes, we still have some from last fall's harvest). This was a good combination because the apples added to the texture and the cherries had the tartness the Melrose lack. Also, I didn't have to add as much sugar because of the apples.

**Filling:**

3 c. frozen pie cherries  
3 c. chopped apples  
1 c. sugar  
1 T. cornstarch

**Topping:**

Nana's Shortbread  
1 c. flour  
½ c. butter  
¼ c. sugar

Directions: After the cherries have defrosted mix them with the sugar and cornstarch in a 7 by 11 baking dish. Let stand while you prepare the apples. Mix in apples and place in a 350 degree oven to bake until fruit begins to soften (15-20 minutes). I used Steve's grandmother's shortbread recipe. Top the fruit mixture and bake until browned.



## ARDEN BERRY

By Roger Ledbetter, Seattle Tree Fruit Society

Have you ever dallied along a trail in the Pacific Northwest to sample our native Pacific Coast Blackberry (*Rubus ursinus*) which trails along in the under growth and wished those black little berries were a whole lot bigger? Now with the Arden Berry you may have just that.

Two years ago I went to Hillsboro, Oregon to work in my 89 year old mother's garden. As a little outing we went to the Hillsboro's Farmer's Market. One of the vendors was selling a healthy looking berry plant called the Arden Berry, and I went up to ask what an Arden Berry was. The vendor said they thought it was a berry that kept the size of a Marionberry yet had the flavor of the wild blackberry. Then he added, "But why don't you go ask Arden." and pointed a few booths away.

Arden showed me a picture of nine berries lined up end to end which stretched to over 12 inches. The berries average about 1 ¼" long, and about ½" in diameter. I bought 3 plants, and planted two in my Snoqualmie garden and one in my mother's Garden. So far the plants have grown very well, and have no signs of any diseases. I had just a few berries this year, and I did not particularly like the flavor of them, but suspected I was picking them too early in my excitement. Due to having so few berries, it was not a fair trial.

Today I called Arden and interviewed him for this article. He immediately explained this berry was not his creation. A friend of his had a passion for breeding blackberries, and wanted to breed a thornless blackberry with large size and the flavor of the native wild berry. For 17 years Arden had worked as the Oregon State University Extension Agent, and his friend, Barney Douglass, asked him to come over to do the field trials and evaluate his berries. For 13 years Arden did this, and eliminated various berries which had diseases, and poor flavor. Arden visited the planting in May and inspected the plantings for fungus diseases, and then again checked in July for flavor, texture, seediness, and yield. Barney would walk along behind Arden, with brightly colored surveyor's tape, and mark the plants to be discarded, and in the 13<sup>th</sup> year Arden said, "Hey! don't mark this one, we may have a winner here."

The next year he went to do the field trials and

found a 4 foot sign next to the berry: "Arden Berry". Barney had named the berry after Arden to thank him for all the work he had done in evaluating them. Sadly Barney passed away from cancer fairly soon after that, and has not been able to see the growing excitement around his creation.

The Arden berry itself is a thornless blackberry, which has many berries in its parentage. Besides the Marionberry and the Pacific Cascade Blackberry, it also has Boysenberry, Loganberry, and the Olallieberry, and the Chehalem. These give the large berry size and flavor, but the thornless quality came from the OSU 1282 berry which was never named. Apparently the thornless quality is a recessive gene. Sometimes thornless varieties do not have the vigor of the thorny varieties, but Arden said the Arden Berry will grow canes 18 feet long although he recommended cutting off the last 6 feet because they will not produce berries. As to the flavor, Arden said the berry is low in tannic acid, which is what makes some berries bitter. He indicated the Arden Berry has an excellent flavor, with a hint of Marionberry, and is sweeter than just about all other berries. It ripens about a week after the Marionberry, and should not be picked until the berry core is white. Another special quality is that the seeds are hardly noticeable. When he uses it to bake a pie, or a cobbler, he just adds some lemon juice. The Arden Berry is sweeter than most, disease resistant, thornless, retains some of the flavor of the Pacific Cascade wild berry, and is large to boot. I can't wait for next year's harvest.



**BOOK REVIEW: WEEDS AND WHY THEY GROW**

By Phil Vogel , South Sound Fruit Society

At our South Sound Fruit Society March meeting on soils, Najda Galadram recommended the book, *Weeds and Why They Grow* by Jay L. McCaman. In this book the author states that the mineral content of your soil provides the conditions for growing various weeds. The book lists around 850 different weeds and the ratios of twenty three minerals and conditions present or not under which the weed flourishes. It is a fascinating concept that different weeds indicate different ratios of Ca, P, K, Mg, Mn, Al, etc available in the ground to the plants and thus are indicative of the condition of the soil. One condition, very low or low Ca is a condition for almost all weeds.

This is true for dandelions, wild blackberries and Scotch broom which all thrive in low or very low calcium. When I moved into my present home four years ago, the two neighboring street strips were loaded with dandelions. In self-interest I asked if I could take over the care of these two areas. It was obvious that the soil lacked everything, so I put on fertilizer and limed fairly heavily. The number of dandelions has greatly decreased, but there is need for more lime. Dandelions pull up calcium from three feet below the surface for the plants on the surface. If there is enough calcium on the

surface they sense that their work is done and disappear. Now I am going to disappear that darn blackberry coming from underneath my neighbor's back fence with very healthy dose of lime.

What I like is the discussion on soils based on the minerals and their ratios that are present and that of the experience of various people doing different trials looking for the optimal balance. The book also discusses the long-term damage that weed killers do to the soil. It also gives useful hints on the removal of unwanted grasses. And how to deal with compacted soil.

One tidbit from the book to take home: "The CODDLING MOTH likes apple trees where the hormone response is established by soils low in calcium and high in potash. Excess soil moisture can be a factor in some places."

The book is worth buying. Another option would be to talk the library or Master Gardener's into purchasing a copy.

The book can be had from Amazon or A T Sales, 1011 Church Rd, Oreland, PA 19075. AT Sales has a very interesting website, [www.thinksoil.com](http://www.thinksoil.com). They also carry a calcium product made from coral calcium which provides Ca plus seventy other minerals.

**LOUIS BROMFIELD**

By Harry Burton, Salt Spring Island

Pulitzer prize-winning author Louis Bromfield (1896-1956) wrote eloquently about the importance of rural life and sustainable agriculture to our collective future. This charming excerpt from "My Ninety Acres" is published in his book *Return to Pleasant Valley*. He also wrote *Malabar Farm*. In my opinion, he was one of the first to write about the importance of organic farming.

A young neighbor describes his visits to My Ninety Acres, where Walter and his wife Nellie live:

"He (Walter) knew more of the fundamentals of soil, of crops, of livestock than any man I have ever known. Some of his knowledge he had read in books and in farm papers, but he didn't trust the things he read until he tried them out, and many of them he didn't even attempt to try since out of his own wisdom, he understood at once that they

were rubbish. Instinctively and out of experience, he rejected things that ran counter to the laws of nature.

"Nellie," he would say, "always said that Nature and the land itself was the best answer to all these questions. 'If it wasn't natural, it wasn't right.' Nellie would say, and I've never found that she was wrong. She used to say that there were two kinds of farms – the 'live' farms and the 'dead' farms. You can tell the difference by looking at them. A 'live' farm was the most beautiful place in the world and the 'dead' farm was the saddest. It depended on the person who worked them, whether they loved the place and saw what was going on or whether they just went on pushing implements through the ground to make money. Nellie was awful smart about a lot of things".



## LET'S GROW SOIL WORKSHOP By Nadja Galadram, South Sound Fruit Society

South Sound Fruit Society is sponsoring an Eco-Soil Test workshop on Sunday, May 3, at the Lacey Firehouse on Steilacoom Rd SE. The cost will be \$25 for the 4 1/2 hour workshop. We need a minimum of 11 or a maximum of 25.

Some participants may want to have an Eco-soil Test run on their own soil before the workshop. A full test costs \$75 which includes my written in-depth recommendations for their particular Orchard or Garden. For a \$50 test they would receive an analysis of their soil.

All participants will be able to learn what can be found out about soil through an Eco-soil Test -- whether or not they have test results in hand.

1) Those **who will have received written recommendations** before the May workshop, will be able to gain an even better understanding of their options for improving their fruit -- because repetition and hearing things from different angles is how the brain learns.

2) Those **who will have received data without recommendations** will learn what their own numbers are telling them about the fruit growing soil and what they can do for their fruit after the workshop

3) Those **with no test in hand** will still benefit greatly with insight into how it is that nutrient levels locked up or available, and eco-measures not

usually taken in normal tests, all give a much richer insight about growing their own fruit.

I plan to bring an excellent microscope with slides and samples of the beneficial microbe community we would like to find or encourage in our fruit growing root zones. If time allows we may be able to look at our own soil samples.

I will provide formulas so that participants will be able to make up Foliar Sprays, to go along with a portion of the workshop to do with understanding that foliar sprays can be used to get the tree or berry bush, to pump up nutrients from the ground.

Samples of different soil and leaf inoculants will be on hand to illustrate different ways to out-compete disease organisms and pests.

I will have samples of the different amendments for members to touch and smell and a list of some places these can be acquired.

This 4 1/2 hour workshop will be a mix of theory and hands-on because I believe people learn best by doing things that are exactly relevant to their own Orchards.

For further information call me at 360-446-4769. If you leave me a message, please mention when a good time is for me to call you back, as I am out of the lab in the field many daylight hours.

Or call Phil Vogel at 360-480-5383

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## Join the Discussion Through the WCFS Forum!

Use the Forum to:

- ask other members for advice,
- give advice
- open a discussion
- even find a ride to a meeting or event.

The Forum is only for members of our organization and is closed to the general public. Simply send me an email and tell me you'd like to join the WCFS Forum. Hope to hear from you soon.

Judi Stewart [js@olympus.net](mailto:js@olympus.net)

**MAD SCIENTIST**

By Roger Eichmann, North Olympic Fruit Society

Happy Spring. It's been a long cold winter for western Cascadia with the early blooming stone fruits a month or more late. At mid March they are still in early bud stage so I expect most trees will bloom late enough to escape most of the late frosts that usually prevent many from fruiting. Thus even the Puget gold apricot may have a crop this year.

Two things that will be of great concern this year are the weather and the economy.

As for the weather, there are at least three factors of interest. First is solar output. It varies by up to 4% from the solar high to the solar low, with a 300 year recurring period lasting 30-50 years of few to no sun spots that is called the Maunder Minimum. This causes a 50-70 year cold event sometimes called the mini-ice age. It is an occurrence that we may just be entering but won't know for another solar cycle of 11-22 years.

Second is the albedo effect. That is the reflectivity of heat back into space mainly due to snow and cloud cover. There is a new theory that cloud cover is affected by cosmic rays (the cloud chamber effect).

More cosmic rays lead to more clouds which lead to cooling with more snow which causes more cooling which could lead to a major ice age. Fortunately it is a very rare event and completely unpredictable.

Thirdly is greenhouse gases of which water vapor is 93% and affected by solar output and the albedo effect. Carbon dioxide is about .3% of the total greenhouse effect, so its main effect is as an aerial fertilizer causing better plant growth.

As for the economic situation, it indicates the prudence of planting more areas for any type of produce. Unfortunately most trees take several years to become productive and we may be getting short on time, so I recommend more attention to the garden and consider an emphasis on the smaller fruits such as goose berries, currants, strawberries, bramble berries and rhubarb. They should be able to become productive in one to two seasons. You can speed up their growth by planting in pots in a greenhouse and later transplanting into the field.

I just planted a thousand rhubarb seeds in the greenhouse of my Alaskan rhubarb and intend to grow them in pots till large enough to evaluate and transplant into the field. I will then select the best for taste, vigor, size, and color for further work.

The March Economist has an article on bees and the April Scientific

American has a good article "Saving the Honey Bee". The latest information is that colony collapse disorder may be due to a yet

unknown agent such as Israeli acute paralysis virus, of which there are three strains and two that are in North America. Some treatment is being used involving sanitation and nutritional supplements but there were no further reports.

A new apple at QFC is Lady Alice. It is about three inches in diameter. red on yellowish green. It is very shiny, nice looking, sweet, crunchy and juicy. It has little acid and no tannins so it is under flavored in an otherwise apple of note. I'd score it at an 8 1/2. If it were more flavorful and could be determined to be disease resistant with growability here it would be a 10!

**Good Fruit Grower Magazine Subscriptions**

WCFS and the Good Fruit Grower Magazine have an agreement that WCFS members can subscribe to the Magazine for a reduced annual rate of \$20.00 per year. If you are interested in subscribing or renewing your current subscription please send a check for \$20.00 made out to WCFS to Hildegard Hendrickson Treasurer WCFS, 2559 NE 96th Street, Seattle WA 98115-2406.



## HANDY TOOL FOR OWENS SQUARE GRAFT

By Eric Simpson, Olympic Orchard Society

Olympic Orchard Society uses the Owens square graft and several members have found the Craftsman Accu 3 in1 cutter a very handy tool for this. It can be used as an anvil pruner. This year our apple rootstock, the supporter 4, is 3/8" to 1/2" and more difficult to graft. The Craftsman's 2.5" blade is good for this.

At our grafting workshop, Judy Stewart tried the Craftsman Accu 3 in 1 Cutter used by Brian Burns. She said it was the best anvil pruner for grafting the Owens' square graft that she has seen. This Cutter may be purchased from Sears for \$30.00 with extra blades. At a different Sears store she found the standard utility cutter for \$17.99 with extra blades. She said it was cheaper, had a blunt nose and comes with a lifetime guarantee. She thought it would be safer to use for the Owens' square graft.

You can order it from Sears.com on line and have it delivered to your local store in a few days. Good grafting,

## THE REAL MEANING OF PLANT CATALOG TERMINOLOGY

A favorite of birds means to avoid planting near cars, sidewalks, or clotheslines.

Grows more beautiful each year means Looks like road kill for the foreseeable future.

Zone 5 with protection is a variation on the phrase "Russian roulette."

May require support means your daughter's engineering degree will finally pay off.

Moisture-loving means plants are ideal for landscaping all your bogs and swamps.

Carefree refers more to the plant's attitude than to your workload.

Vigorous is code for "has a Napoleonic compulsion to take over the world."

Grandma's Favorite -- until she discovered free-flowering, disease-resistant hybrids.

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**GROWING AN APPLE TREE IN A CONTAINER**

By Marilyn Couture, Olympic Orchard Society

**Suitable Rootstock for Container Gardening:**

The rootstock determines how tall the tree will be. The preferred dwarf rootstock is M-27, M-9, M-26, or Supporter 4.

**Plant At least Two Varieties:** It is

preferable to have at least two varieties of apple trees selected that will bloom around the same time to ensure cross-pollination. Most cultivars are diploids (with two sets of chromosomes). Some apple trees are triploid cultivars, meaning they have three sets of chromosomes and are ineffective pollinators, needing to be grown with two other diploid cultivars that will pollinate each other and the triploid.

**Chill Hours:** All fruit trees need a certain *minimum* amount of time where the temperature is under a certain mark called "chill hours." For apples, the magic temperature is below 45 degrees Fahrenheit. Check with your extension office to find out how many chill hours your area gets. Generally, local nurseries will only carry the varieties that will do well in the area. Most apple trees are hardy to -25 degrees Fahrenheit. The roots need to stay above 15 degrees. You'll need to insulate your pot or move it to a more sheltered location if your area is expecting temperatures below 15.

**Potting the Tree:** Choose a pot that is at least 10-15 gallons in size – a large garden tub or half barrel will do. The container should have adequate drainage holes in the bottom. Select coarse potting soil that is fast draining. Set the container on a wheeled trolley before you fill it with soil. Inspect the roots – they should be loosened and disentangled. Trim them so that they will fit in the new pot. Fill the bottom of the pot with dirt. Then place the tree in the pot so that the graft union (the bulging point near the bottom of the trunk where the tree was grafted onto its rootstock) is level with the lip of the pot. Continue filling until the dirt is two inches below the lip of the pot. Stake your tree to help support it and keep it growing upright. Be sure to tie the tree to the stake loosely. After planting the tree, you should prune back the branches by about one third (see diagram). Then water the tree thoroughly, until water streams out of the holes in the bottom of the pot.



**Watering:** Containers dry out faster than regular gardens and also can be more water-logged. If you purchased a bare root or dormant potted tree, you will not need to water it for several weeks after the initial watering. The tree is dormant and only needs the soil to be barely moist. If the dirt is too wet, you risk causing the roots to rot. If the tree has leaves on it when you purchased it, follow the instructions below. After your tree has shown signs of coming out of dormancy, water only when the soil is dry to the touch, every 5 or so days except when the temperatures are really high. When it is hot outside, check your tree daily to see if it needs water. Starting in September start withholding water. Only give the tree enough water enough to keep the soil very lightly moist. This will help the tree prepare for dormancy in the winter.

**Fertilizing:** Purchase a fertilizer meant for fruit trees. Purchase a chemical fertilizer like Miracle Grow, a time-release fertilizer like Osmocote, or an organic fertilizer like Hendrikus. People who use Miracle Grow often dilute it to half strength and water their trees once a week during the growing season. If you're using an organic fertilizer, follow the package instructions. Start slowly reducing the fertilizer when you start reducing the amount of water in September. Do not fertilize your tree in winter.

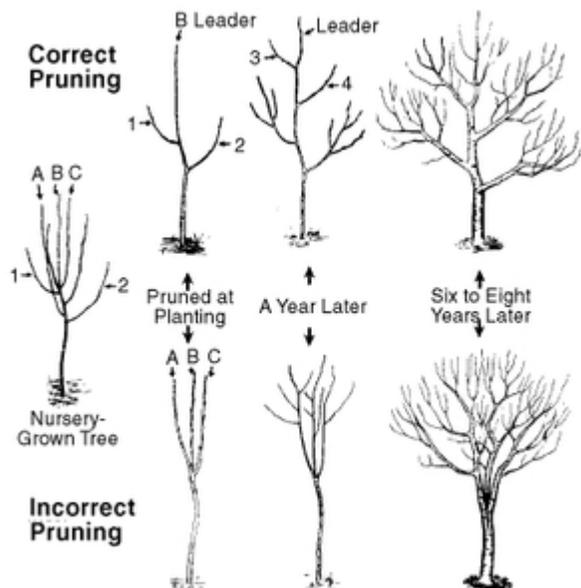
(Continued on page 16.)

Live in each season as it passes:  
breathe the air, drink the drink,  
taste the fruit, and  
resign yourself to the influences of each.  
Henry David Thoreau



(Continued from page 15)

**Pruning:** This graphic from the [Clemson Extension](http://www.clemson.edu/extension) website demonstrates proper pruning.



Basically, you want a central trunk (the 'leader') and three or four main branches pointing out to the sides. Each side branch should be about six inches up or down the trunk from the other side branches. Remove any branches that are pointing inwards or that cross another branch. The goal is to give each branch the most light possible, because lots of sunshine is needed to produce flowers and fruit.

So don't allow limited space, rocky soil, or other obstacles deter you from growing and enjoying delicious fruit produced in the home garden or backyard orchard.

Death and life are in the power of the tongue and they that love it shall eat the fruit thereof." *Proverbs 18:21*

## GARDEN SHED COMEUPPANCE

By Roger Ledbetter, Seattle Tree Fruit Society

"A house divided against itself cannot stand." True, but sometimes democracies just get nothing done. So it was between my wife and me who for years debated about where to put our garden shed.

Once we decided on location, I wanted to build a shed that would really add character to the garden. It would be built in a funky style with hand split shakes for siding and roof. And it would have skylights in the roof for natural lighting to save electricity.

I was feeling rather smug, when a healthy colony of mason bees moved right in, and began nesting in the walls of the shed. This had been part of my reason for using shakes in the first place but I was surprised when it happened the first season. Then I got my comeuppance: a terrible thing happened. I discovered mason bees trapped in the sky lights, where they eventually died, and fell to the floor. My wife caught me on a ladder catching mason bees in a glass jar, and shook her head with a sad look. I hurried up and got the door hung, but the bees kept appearing, and dying. I was quite puzzled about how they were getting into the shed.

Then satori: I had used a traditional sub-roof of 1x4" sheeting with open spaces between them. The bees were nesting in the roof too, and were going up the cracks, in the shakes, and drawn by the light at the end of the tunnel, they were getting trapped in the garden shed. I had created a death trap! This could have easily been avoided in the beginning by using solid plywood sheeting, but it would be difficult to rectify now.

The only solutions I have come up, with at this point, would be to insulate the roof, this would probably block the light and keep the bees from entering the building. The other solution would be to remove the skylights so the bees can get back out. Also the skylights could be covered with a piece of plywood, with a hole cut in it, and an inverted funnel glued over the hole. The bees hopefully would be attracted to the light in the funnel, and would be guided out.

So for those of you who have finally come to an agreement on where to place your garden shed, by all means create habitat for your native bees by using shakes, but make sure you use solid sheeting on both the sides and the roof.

## WCFS

**BOARD MEETING HIGHLIGHTS**

The January 10 Board meeting was called to order by President Mark Youngs at 10:12AM. There were 18 members present and 2 guests. Minutes and treasurer's reports were approved

Hildegard gave an update on the Insurance for WCFS, and Patti Gotz volunteered to work with Hildegard to look for another agent. Patti has already started some fact finding with SAFECO.

The question was then asked about donations to WWRF and what that money was being used for. It was explained by Ron Weston that money sent in was going to research unless it is specified that it was to go to the demonstration gardens. He went on to explain the benefits of sending the money through the WCFS since we are a nonprofit 501C that this shows we are fulfilling our commitment to support research and it still allows for the individual tax deduction. It was also stated that by going through the WWRF more of our money goes to research and not to administrative costs.

**Old Business:** The feasibility of WCFS Board Meeting via Conference call was discussed. After much discussion it was decided to setup a conference call for the Summer Meeting as a test run with discussion and evaluation to follow. Erik Simpson volunteered to work out the details.

Patti Gotz gave a presentation on the website and how much it is being used. There was some discussion on some problems with login and getting into parts of the website which are being addressed.

**NEW BUSINESS:** It was asked if anyone had records of previous motions made and acted upon and other pertinent decisions. Some of the members stated that since George was the secretary for so long that he would have the most information. We decided to have George put together a list of motions and decisions for WCFS.

Jeb Thurow was nominated for Secretary. There were no nominations for Treasurer or Vice President the President asked all board members to encourage their chapters to look for a qualified volunteer for the treasurer position. Since it must be filled at the March Meeting along with Vice President and Directors.

Leonard Fuller volunteered to work with the chapters to make up a speaker list

Motion was made by Sharon Hall to have all presidents send their Chapter reports to the Secretary via E-Mail ([CJThurow@hotmail.com](mailto:CJThurow@hotmail.com)) prior to the meeting. Jeb Thurow Seconded motion passed

March meeting will be held on Vashon Island, place and time TBD Ron will check ferry schedules and locations and send them out

Respectfully submitted

Jeb Thurow

**CHAPTER NEWS**

**North Olympic Fruit Club** Fall Fruit show was very successful. It grossed about \$4300 and there were about 500 to 600 people who attended. We started appreciation certificates for members to help build club moral. Membership has grown to about 120 from 90 a year ago.

Our club was invited to participate in a wassail at Finn River Farms on January 17<sup>th</sup>. We decided to try and do cherry and plum grafting in late February and pear and apple in March. Sally Hall President

**Olympic Orchard Society** membership is holding steady, with some turn-over.

The September meeting where Kiwi Bob was the

main speaker was very well attended.

The October Fall Fruit Show was a big success with over 300 in attendance. We sold apple crisp, 100 grafted trees, and charged entrance fee. It brought in close to \$2,000. We are planning another for next fall, then hope to alternate years with North Olympic.

In November we visited Steve Johnson's Lazy J tree farm to see his cider mill, orchard, trout pond, and composting operation.

The December annual holiday dinner was well attended.

Plans for the upcoming year include a pruning workshop, a grafting workshop for the public and



one for the high school agriculture class. Steve Vause President

**Peninsula Fruit Club** has been busy doing a lot of public outreach projects. During Jan. we had a great turn out from the public to see video tapes at our local library about pruning apple trees, blueberries, and grapes. We also answered many of their questions. Sally Lorée and Jean Williams went to Vashon Island Fruit Club's Jan. workshop to learn more about pruning older fruit trees. Later in the month our club had a hands on workshop teaching master gardeners and newer club members to prune older apple trees to rejuvenate them. We will be returning to this orchard to demonstrate various ways to graft hard cider apple varieties onto these trees.

During Feb. at the public library we hosted power point presentations that some of our members created about grafting and mason bees. We also presented slides of the apple trees we previously pruned to rejuvenate and answered the public's questions. On Feb. 15 six of our club members participated in Vashon Island Fruit Club's pruning workshop and had a great time learning how to prune fruit trees growing in a high density orchard.

March is a very busy month for our club. So far we have visited two North Kitsap High School classes and a 4-H club on Bainbridge Is. and taught them how to graft apple and pear scion wood to rootstocks. They were so excited to have created their own trees. On Feb.7 six of our members traveled to Portland, OR to the Home Orchard Society's Fruit Propagation Fair. Besides finding the scion wood we came for we listened to two great talks: one about caring for fruit trees and one about growing espaliers. On the way back home as the snow began to fall our dedicated members stopped south of Olympia at Darren's mother-in-law's house and grafted three scions from the Fair to her apple tree. Let's hope they take. We will be going to the Spring Board Meeting on Vashon Island. On March 21 at 11:00 our club will be having a Grafting Show at the Bremerton Parks and Recreation Building. This is not only a fund raiser but we also help the public select from the many different scions our members bring. We also teach the public how to graft the scions to rootstocks that we have for sale. We sell fruit trees that some of our members have grafted and grown for a year as well as bee blocks, footies, and grafting knives. To end our month we will be teaming with Kitsap Co.'s 4-H Clubs to host an All County 4-H Meeting where

we will help them learn to graft apple and pear fruit trees.

During April we plan to teach students at North Kitsap Jr. High School and Klahowya Secondary School to graft apple and pear trees. We will also be having another workshop on rejuvenating older fruit trees and grafting different varieties to the existing trees in a member's orchard. Somehow we also manage to find time to attend meetings and work on our own fruit trees too. Sally Loree President

**Seattle Tree Fruit Society** now has 234 members. In November, Kathy Mendelson, STFS member, gave a talk on Pioneer Orchards, Who They Were and What They Planted. In December, Lacia Lynne Bailey, STFS member, talked about Permaculture. Also in November, the club held a Fall Fruit Show focused on acquainting the public with the taste of different apple varieties. Talks were also given on mason bees, kiwis and figs, and the care of fruit trees. The club also to set up and staffed their booth at the Northwest Flower and Garden Show in February. Leonard Fuller President

**South Sound Fruit Society** October meeting featured nurseryman Bob Hartman's presentation on apple varieties that grow well in our area. November, 4th evening was also National Elections and two of our members Deb Crane and Francesca Ritson gave a presentation on various ways to use apples and pears with plenty of samples of apple ciders and delicious treats. December's presentation featured Seed Savers and the necessity to retain the biological diversity of heritage seeds. Jan was cancelled because of weather. February 3, Mike Dolan, nurseryman and seller at the Olympia Farmer's market will discuss grafting and nut trees that grow in our area. Nadja Galadram a local soils analyst expert will present on enhancing and balancing our soils. Phil Vogel President

**Tahoma Fruit Society** September: Puyallup fair. Raffle Cider press October: Discussing getting ready for winter trees. November: Dan the Raptor man talked about rescuing falcons. Has to be on list for state to save wild birds. December: Potluck. January '09: Speaker Mike Stanley head gardener at retired community in Federal Way volunteer and donation to help in community garden. February'09: Will have speaker talk about noxious weeds. Henri Carney President

**Vashon Island Fruit Society** membership: Approx. 150 households

Sept. held joint field trip with South Sound Chapter, visiting Olympic Farmers Market and

Continued from p. 13

Evergreen College's organic farm and a berry farm in Puyallup. I think these joint Chapter outings are a great way to see new things and meet new people.

Oct. Fall fruit show held in conjunction with Saturday farmers market on Vashon and in coordination with a hard cider "Cider Fest". Was a very successful show and I'm sure we'll repeat again next year in this location and with "Cider Fest"

Nov. Chapter meeting focused on history of fruit growing on Vashon Island. A gathering of old Timers recounted their memories of growing fruit on the Island. Bob Norton and Sally Fox plan to write a book on the topic.

On Jan. 13 we will have our annual member's meeting and elections. I will be replaced as President by Elizabeth Vogt, who is and entomologist by training. Ron Weston President

## THE APPLE MIDGE: CANADIANS INVADING AGAIN

By Roger Ledbetter, Seattle Tree Fruit Society

At one of last spring's Seattle Tree Fruit Society monthly meetings, a speaker presented on beneficial and non-beneficial insects in orchards, and I learned many pests have been passed to us from Canada. Not long after this meeting, I noticed the growing tips of the branches in my apple trees were being damaged by something.

The edges of the new leaves were tightly rolled, and in places, turning purplish. The leaf edges died, dried and turned brown. "Leaf Rollers" came to mind, but the edges were so tightly rolled that no decent sized insect could fit inside. I tried unrolling the leaves and at first found nothing, but eventually I noticed some tiny orange specks. Upon staring even closer, I noticed the specks were wiggling. I had found the culprit: tiny maggots.

But I couldn't remember our speaker describing anything like this pest. I gave a sample to David Conners. He did a little research, and directed me to a website on Apple Midges. The description exactly matched what I was seeing.

Starting out as white maggots, only a millimeter long, they grow to 2 to 3 millimeters long, and turn orange as they age. They had been known in the Fraser Valley, since the early 1990s, but were first found in Washington State, in the Okanagan Valley, in 2003. They appear to have made a beeline to my orchard where I found them this last summer.

Apparently the Apple Midge has not been greatly studied in BC, and little is known about their life cycles. However, in Nova Scotia, they have been found to over winter in silken cocoons in the ground, and begin to emerge from May to June. They have a life span of about a week. They mate and lay their eggs along the edges of the terminal leaves of apple trees. Feeding on the upper surface of the leaf for 2-3 weeks, they then drop to the ground during July, and a second generation

infects the orchard in August.

Unlike Coddling Moth and Apple Maggot Fly, the Apple Midges do not feed on the fruit, and so they are not considered to have an "economic threshold". I take this to mean they do not cause any significant economic loss. Unfortunately, I found them on my collection of Cox-crosses. These trees were in their second year, and are being grown as espaliers on a fence line. It is easy to see how the Apple Midge would not be a concern in fully grown commercial orchards. But on young trees, damage to the growing tips is an issue, and can cause the tree to be deformed or stunted. I am particularly concerned about the effect they will have on my young espalier trees.

So, what's an orchardist to do? At this point it is not clear to me how to control the Apple Midge, and I am very interested to hear from anyone that has had success. This last season, I tried Safer insecticidal soap, but was not convinced it had a significant impact. Once the midges are feeding, the edge of the leaf curls very tightly. I doubt the insecticidal soap can penetrate the rolled leaf to where the midges are doing their damage. Perhaps it would be more effective if the leaves are sprayed before they begin to roll. Cygon/Lagon or Diazinon are recommended as being effective on the larvae when they are young, but I have not tried these yet. The November 2006 issue of the Scion Post has a discussion of Spinosad, an organic approved insecticide, which is reported to help control Apple Maggot Fly and Coddling Moth. Spinosad is said to have staying power, and not to require re-spraying for about 3 weeks. I think I may experiment with Spinosad this next year.

If you would like to see what these "lil' buggers" look like go to [www.agf.gov.bc.ca/cropprot/tfipm/leafmidge.htm](http://www.agf.gov.bc.ca/cropprot/tfipm/leafmidge.htm).