May's Bee Labor ...

... ruined by

June's heat dome.

the Urban Scion Post

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A Message from the President

Thanks to all who participated in our workshop at the Demonstration Orchard in early June. We accomplished a lot. The orchard looks decent and should produce well this year. It was also nice to see some new faces at the event. We are still seeking some ongoing help in the orchard, both in planning (for new additions and signage) and maintenance. We've established a good relationship with other groups at Magnuson Park and hope to benefit from this synergy.

The Western Cascade Fruit Society recently had a meeting, with representatives from all nine chapters present. As usual, all chapters gave updates on their activities over the past 3 months. Some clubs have kept their meetings on schedule, although via Zoom. This new format has created opportunities to expand attendance for some. Other clubs have kept their activity to a minimum. Most of the clubs that normally have a fall fruit show are hoping to do so again this fall. A few clubs have scheduled (tentative) in-person events this summer. Also discussed at this meeting were the tech challenges faced by the chapters. The WCFS grant program was also discussed. This program has funded signage projects for the Vashon club and the Bainbridge Island club. In the past, this program has also funded small research projects. Keep in mind that such funding is available to all WCFS members. I have mentioned this before. If you have a project in mind, WCFS can potentially fund it, and we all can benefit.

Also discussed at the WCFS meeting was the status of the 'Beeline.' You've no doubt noticed that the last scheduled publication of this newsletter did not materialize. As it turns out, the Beeline editor needed to step down from that position. So, a new editor is being sought. If you have any interest, please step forward.

We are smack in the middle of raspberry season. One of my favorite fruits is the Black Raspberry (Rubus occidentalis), aka 'Blackcap.' I grow this species because: 1) they are tasty, 2) the plants don't spread, 3) they are one of the healthiest fruits, 4) they are attractive in the winter, and 5) they are not readily found in stores. Now, I have another reason to tout this species. I recently picked a large container full for a friend's house for a dinner party. One of the guests remarked, "It must've taken all day to pick those." "No," I replied. Then, it dawned on me for the first time..... since black raspberries are produced in circular clusters, and many ripen at about the same time, it's easy to just hold the container beneath the cluster, then flick the ripe ones off into it, one after another. It is a relatively fast process.

We are hoping to be able to meet again beginning in September. As of now, the buildings at Magnuson Park are not available for public meetings. But that may soon change, as other facilities have been opening. Fingers crossed.

Regards, Mike Ewanciw

Urban Scion Post

Inside this issue:

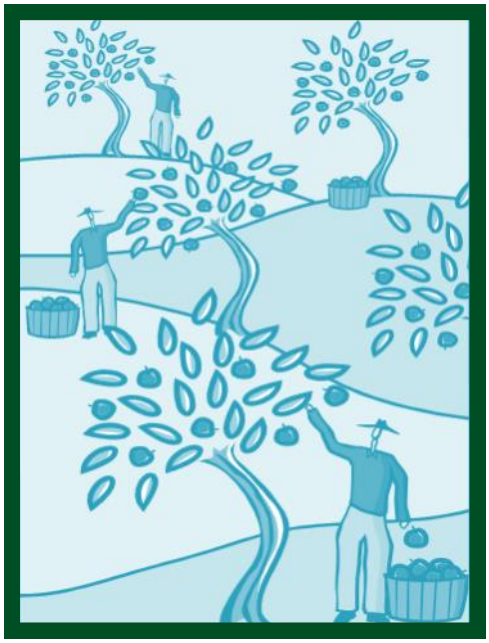
On the cover

Photo of *Bombus sp.* pollinating *Rubus sp.* May, 2021 @ an editor's backyard. Self-fruiting blackberries don't need pollen from other blossoms but do need assistance from pollinators or wind for pollen transfer from anther to stigma. Inset of same developing fruit scorched by late June, 2021 heat dome.

July 2021, the Watering and Pruning Month by Marilyn Tilbury

Mama mia! What weather we've experienced. But meteorologists put this into perspective as a one in 900 year event. Yes, global warming contributed to our record high temperatures, but only about 2° of the total 108° F recorded at SeaTac on June 28. The rest of the excess is attributed to a rare convergence of factors adding up to that impressive heat dome over the PNW.

The Columbia basin in our state and our BC neighbors were hit especially hard. Down river from Tri-Cities a bit, the small town of Dallesport WA, across the Columbia from the city of The Dalles OR, reached 118°. Often reaching record highs in Canada over the years, the village of Lytton BC recorded 121° on June 29 before being destroyed by a fast moving fire the following day.



And therein lies a lesson for us: it is very dry, it is expected to continue to be dry, and that almost certainly will lead to fire and smoke. If you are at risk, clear defensible areas now around structures and your escape route, prepare a go bag, have N95 masks at the ready for you and pet carriers for your animals.

As for your plants, were you surprised to see how tomatoes were affected by heat? Yes, they are basically subtropical perennials but they like hot and humid, not super hot and dry. Look at your fruit tree leaves. When they start to cup and take on that dull green look, they're crying for a deep watering, right now.

Check drip systems often. They are wonderful technology but every so often an emitter stops working. This just-in-time watering system offers no moisture reserve in the soil for affected roots. Some plants, even grapes, get scorched leaves in extreme heat. The best thing to do is just keep them adequately watered. Some plants, like a poorly situated rhody, can be helped by shade from a piece of plywood until temps cool.

The first two weeks of July are the traditional time to seed winter veggie crops (veggie starts may be set out into the first week of August). Perhaps this July might be a good time to make room for some hardy winter greens like arugula, green onions and kale. The great drought affecting the winter greens growing areas in the SW may cause water quality issues (salmonella or E. coli, anyone?), if not crop loss due to the possible absence of irrigation water from the Colorado R.

Some rice farmers in CA who must use water from the Sacramento R. to raise rice are selling their water rights to downstream farmers. They can profit about as much as they would from raising rice. And some of the downstream farmers are fallowing parts of their fields because they can't make a profit after paying for increasingly expensive supplemental water. This will mean fewer even high value crops including almonds until these extreme drought conditions break.

The last week of July and the first of August have traditionally been the best time to downsize fruit trees. Do prune cherry trees and other stone fruit just as soon as possible after harvest, as long as weather is dry.

Murder hornet update: on June 4 a Marysville man happened to spot a dead Asian giant hornet lying in his lawn. Because it was (a) a male and males are not expected to emerge until fall, (b) it was desiccated, indicating it may have been alive the previous year and (c) its color differed from specimens previously collected in BC and WA, it was genetically sequenced by USDA and found to be from a population distinct from the others. Its presence in Marysville, over 50 miles south of any other occurrence, is a puzzlement but does indicate that at some point these insects sailed from Asia to our shores via ship.

Ah, mostly mask free at last. At the writer's recent dermatology visit she was told that mask requirements may be permanent for this medical specialty because a number of their patients are immune compromised. They either develop little defense after vaccination or their health status precludes their even becoming vaccinated. Fortunately we now know that masking by everyone in their presence can offer protection. Then there are the more transmissible variants of concern, the delta variant and delta variant plus--let's hope these don't set us back. Perhaps we should continue to carry a mask with us until the pandemic is over.

PNW June '21 Heat Dome To Remember or to Forget?

Remember that crazy Midwest-esque rainstorm that drenched the Seattle area around the weekend of June 12-14? Before the final weekend that odd deluge would have been June's noteworthy weather event. As of the second week in July '21, Puget Sound weather once again offers cool nights for restful sleeping under a light blanket followed by a morning marine layer then moderate sunny afternoons.

The extreme heat of the late June '21 heat dome in the western USA and Canada probably caused hundreds of human deaths, and unprecedented stress on the area's flora and fauna. Still being billed optimistically as "historic" and not another "new normal", this unusual heat dome warns PNWers that it can happen. With so much else to worry about, do PNWers have the memory space right now to plan home orchard resiliency against possible future PNW heat domes?


Sunburnt Pear Leaf

Online explanations of conditions creating the heat dome seem so blasé, yet the effects of this phenomena were ineffable and unnerving. What resulted was the weather that non-native PNWers move to the PNW to escape from, and native PNWers may blame the non-natives for bringing with them. Weather leading up to the heat dome began a week earlier with rain over the Pacific Ocean near Japan setting off an undulation in the jet stream termed a Rossby wave (aka planetary wave). Approaching North America, the Rossby wave amplified then bent back on itself allowing the associated region of high pressure in the middle of the atmosphere to slow then pause over the PNW. PNW ground was already dried out from continued drought conditions and didn't dissipate any heat from the sinking, compressed, hot air of the high-pressure system. Another high-pressure system from James Bay/ Hudson Bay in Canada contributed to the hot temperatures along with no reflective cloud cover. The heat dome extended high into the atmosphere impacting air pressure and wind patterns. Onshore flow of cool marine air from the Pacific over hot PNW land was blocked.

June '21 (probably to no PNWer's surprise) was determined by satellite data to be the hottest June globally on record. The data also show longer periods of higher temperatures which may outlast the capacity of fruit plants to cool themselves. And as of June '21, more than 30% of continental USA land area is in a "severe drought".

Source URL
https://theconversation.com/the-north-american-heatwave-shows-we-need-to-know-how-climate-change-will-change-our-weather-163802
https://www.theguardian.com/us-news/2021/jun/28/portland-seattle-heatwave-heat-dome-temperatures
https://www.theguardian.com/environment/2021/jul/01/nowhere-is-safe-say-scientists-as-extreme-heat-causes-chaos-in-us-and-canada
https://www.theguardian.com/environment/2021/jul/07/north-america-endured-hottest-june-on-record

PNW June '21 Heat Dome Damaged Developing Fruit

News outlets reported on the heat dome's immediate effects on PNW commercial fruit production. Unaccustomed to the time, length and intensity of the PNW June '21 heat dome, PNW commercial berry operations incurred unprecedented significant damage still being assessed.

From the Bellingham Herald (https://www.bellinghamherald.com/news/local/article252532053.html): The length of the June 26-28 heat dome caused significant crop loss at commercial berry farms in Whatcom County. On Monday, June 28th, the temperature in Lynden peaked at 106 F. This year's blueberry and raspberry fruits ready for harvest were cooked, and developing plant parts integral to next year's crop were burned meaning possibly a poor quality/quantity crop next year. A Washington Red Raspberry Commission spokesperson guesstimated a loss of at least 30 percent. At a Ferndale berry farm, the owner explained when a blueberry fruit overheats, the ripening process ceases and the berry turns white not altering the taste but lessening marketability to paying customers. Another longtime grower explained the limited cooling options available to PNW blueberry growers for berries ready to harvest when the heat dome took hold. For example, the water rights issue in the Bellingham area precludes a misting system.

Sun-damaged unripened blueberries

How do plants stay cool on their own?

From the University of Minnesota extension service (https://extension.umn.edu/planting-and-growing-guides/watering-established-trees-and-shrubs):Left to rely on their own defenses during a heat dome, water is vital for keeping plants cool. Plants are cooled by liquid water evaporating inside leaves then escaping as water vapor into the environment through stomata, the tiny openings located mostly on the underneath side of leaves. Water starts in the soil surrounding the plant roots. Transpiration is the movement of water 1) from the soil into plant roots, 2) upward through the plant's vascular tissue connecting the roots, stems and leaves, and 3) into the surrounding air as water vapor exiting through the stomata. At least 90% of water entering plants evaporates through the leaves.

Developing Fruit Damage due to PNW June '21 heat dome

Like the commercial fruit farmers, home fruit growers suffered similar losses due to the recent heat dome.

Cooked blueberry and raspberry fruit were observed at a STFS member's Port Orchard backyard orchard along with scorched blackberries, cooked/mushy gooseberries, mushy/but edible apricots, dried-out medlars, and sunburnt apples.

Longtime STFS member Greg Giulani emailed his observation of prematurely ripening plums in early July at his Woodinville-area orchard that were either diseased or sunburnt. Greg advised that individual fruits ripening far sooner than the fruit majority can be a sign of localized distress.

Multiple backyard orchardists reported on the WCFS forum that the heat dome had caused sunburnt apples in their Puget Sound-area backyard orchards.

PNW June '21 Heat Dome Sunburned Apples

Southwest-facing, unshaded developing Belle de Boskoop apple after exposure to heat dome June 26-28 at Port Orchard.

June 29

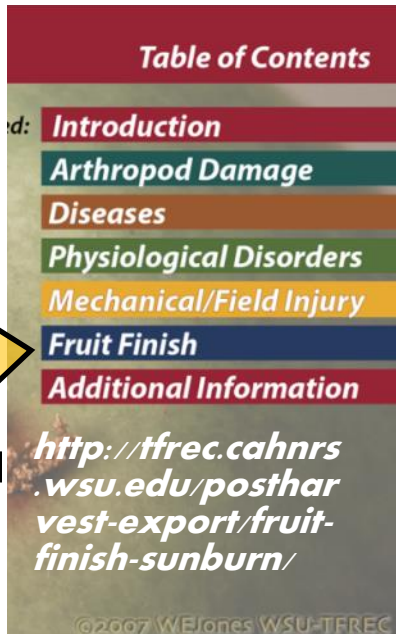
July 3

July 9

Sunburnt apple skin doesn't shed and heal like human's. Better to remove sunburnt apple immediately redirecting energy to the remaining undamaged developing fruit and next year's vegetative growth and fruit production.

WSU Extension Service's "Apple Postharvest Defects & Disorders Quick ID Guide" "Fruit Finish" section describes damage to apple fruits caused by sun and heat. Visual aids showing pre-harvest sunburn necrosis, sunburn browning and photo-oxidative sunburn (once called Type III sunburn) are part of this resource designed for QC in packinghouses.

In hot, sunny weather, the surface temperature of developing apple fruits can be 20 to 30 degrees F higher than the surrounding air temperature. Apple fruits aren't cooled by transpiration like apple tree leaves are. Sunburn necrosis (cell death) of developing apple fruit begins when the fruit surface temperature reaches 125 F and higher for a duration of at least 10 minutes. At an air temperature of 95 F, the fruit skin temperature may be 125 F and with sunny weather, sunburn necrosis can occur.



Heat and sun stress can cause other fruit defects such as cracking, crinkle, lenticel marking, russeting and splitting. Generally, sunburn damage compromises fruit storability. Source URLs:
http://treefruit.wsu.edu/article/sunburn-management-in-apples/

http://tfrec.cahnrs.wsu.edu/postharvest-export/apple-postharvest-defects-disorders-quick-guide/

PNW June '21 Heat Dome Damaged Fruit Plants

How to Protect Developing Fruit from Heat and Sun Stress

1) Water plant's roots deeply before, during and after the heat dome.
2) Water-mist (evaporative cooling) developing fruit during the heat dome.
3) Cover developing fruit (especially unshaded, southwest-facing developing fruit) with barrier protection like maggot barriers or kaolin-based protectant sprays.
4) Cover entire fruit tree with shade (preferably light-reflective, light-colored, breathable) cloth.

Fruit and Nut Plant Damage from Heat and Sun Stress

Standing outside in the direct sun on June 28th in the Puget Sound area, backyard orchardists could experience the same heat and sun stress of a very hot summer day with long daylight hours of high angle sunlight that their fruit plants endured. Or not … We could have sought refuge in the shade offered by a larger pome tree or admitted defeat retreating to indoor air conditioning. Compounding our fruit plants' dilemma being rooted in a heat dome, the Puget Sound's mounting drought almost ensures a water deficit in backyard orchards. To stay cool, plants transpire upwards of 90% of the water absorbed into the plant. Just like profusely sweating humans, plants suffer when not enough water is available to replace that lost during evaporative cooling. By transpiration, plants attempt to eliminate heat accumulated from sunlight intercepted by leaves, soil (warmed and dried by sunlight) contacting roots and air (warmed and dried by sunlight) flowing (convection and advection) over the surface area of leaves and other aboveground plant parts. Prematurely browning/sunburnt/cupped/wilted leaves, twigs and vines show visually that transpiration alone wasn't enough to shed sufficient heat keeping all parts of the plant alive and thriving.

During ephemeral extraordinary weather which hopefully last month's heat dome was, backyard orchardists can temporarily utilize labor-intensive, relatively inefficient means such as additional watering of plant roots, water misting plant surfaces and draping shade cloth over plant surfaces to assist with plant cooling. Commercial fruit operations commonly utilize these techniques, but only after considerable investment in materials, installation/upkeep of those materials and continuing elevated water usage. For the backyard orchardist, longer term more sustainable actions for assisting with plant cooling might utilize 1) partial shading that reduces intercepted sunlight by planting companion vegetation or erection of shading structures, 2) covering adjacent surfaces with colorants or other surface treatments to reflect or dissipate heat coming from sunlight, 3) installing berms or other structures slowing wind that dries out plant vegetation and 4) laying down mulches or other low-density insulating ground cover that lessens soil water loss under fruit plants.

Source URL https://extension.psu.edu/heat-stress-in-urban-trees

PNW June '21 Heat Dome Damaged Fruit Plants

Fruit plants (except for some species that prefer shade) are plugged and pruned to maximize the amount of sunlight intercepted and turned into quality fruit. Backyard orchardists and commercial growers ultimately are farming sunlight. The heat dome showed that too much of a good thing causes bad things. Everything including sunlight is needed in moderation. Was the PNW June '21 heat dome "historic" or the foretaste of hotter/sunnier summers in the Puget Sound area that Eastern Washington fruit growers already know and have adapted to with irrigation systems, shading structures and whatever else they've discovered that works by being regularly exposed to these weather conditions?

Call for photos, observations of PNW June '21 heat dome damage and techniques minimizing damage

For a future newsletter article and reference material for STFS members, please email Trent Elwing (trelwing@gmail.com) 1) photos of and observations about heat-damaged fruit plants and developing fruit as well as 2) photos of and advice on equipment and techniques utilized to protect your fruit plants and fruit from the PNW June '21 heat dome. This information will very helpful for STFS members planning for home orchard resiliency from apparent accelerating extremes of climate chaos.

Human Illness from Heat & Sun Stress

Heat-related illness is real even for the PNW backyard orchardist

Preventing heat rash, cramps, exhaustion, stroke … even death during hot weather and/or backyard orchard upkeep

In a July 9, 2021 Washington State Department of Labor & Industries (WA DOSH) press release, WA state Governor Jay Inslee is quoted as saying "The heat experienced in our state this year has reached catastrophic levels. The physical risk to individuals is significant, in particular those whose occupations have them outdoors all day."

While Governor Inslee may have focused - for this worker safety press release - on individuals working outside in extreme heat, hot weather can negatively impact all human beings working, resting … existing while outdoors and indoors.

The WA state Dept. of Health website includes the following comments on past and possible future extreme heat events (https://www.doh.wa.gov/CommunityandEnvironment/ClimateandHealth/ExtremeHeatEvents) "Washington summers are getting longer, hotter and potentially more dangerous. According to climate scientists, the number of very hot days and extreme heat events will increase across the state, though by how much varies depending on location and future greenhouse gas emissions." (https://cig.uw.edu/wp-content/uploads/sites/2/2020/12/snoveretalsok2013sec12.pdf)

PNW June '21 Heat Dome Human Illness from Heat Stress

"High heat events cause heat-related illnesses, death, and emergency room visits." "Although preventable, anyone can get ill from extreme heat, and outdoor workers, young children, older adults, people experiencing poverty, and people with chronic diseases are particularly vulnerable to the impacts of heat events." (https://www.cdc.gov/climateandhealth/pubs/extreme-heat-guidebook.pdf)

On July 9, 2021, Washington State Department of Labor & Industries (WA DOSH) belatedly filed an emergency rule covering only outdoor (not indoor) work activities "when the temperature is at or above 100 (F) degrees." See WA DOSH news release at: https://www.lni.wa.gov/news-events/article/?id=21-018. The emergency rule adds more defined requirements missing from the previous more aspirational than enforceable outdoor heat exposure rule.

Even before this emergency rule, farmworkers laboring at Eastern Washington orchard and vineyard outdoor/indoor worksites were already being exposed frequently to extreme heat. Apparently, Olympia-based WA state officials were prodded to take action only after the late June '21 heat dome baked AC-lacking Western Washington by several consecutive days with daytime high temperatures in excess of 100 F.

In British Columbia, WorkSafeBC enforces worker safety rules and provides resources in response to work-related injuries and diseases. Prior to last month's heat dome, WorkSafeBC in a 6/23/21 press release warned employers and workers of the coming hot coming hot weather and associated heat stress risk.
WorkSafeBC heat dome press release: https://www.worksafebc.com/en/about-us/news-events/news-releases/2021/June/high-temperatures-put-workers-at-risk-of-heat-stress

The WorkSafeBC website includes descriptions of symptoms and illnesses caused by exposures to excessive heat. (https://www.worksafebc.com/en/health-safety/hazards-exposures/heat-stress)

Heat stress-caused symptoms are diverse and can be like those of other human illnesses. Human ailments related to heat stress are generally divided with increasing severity into heat cramps, heat exhaustion and heat stroke.

By recognizing weather conditions and work activities associated with heat-related illnesses, precautions can be implemented that greatly lessen the chance of heat-related illness and the need to diagnose it.

Heat-related illness symptoms include:

1) Sweating
2) Muscle cramps
3) Increased heart rate
4) Shallow/rapid breathing
5) Weak/rapid/irregular pulse
6) Cool/pale/clammy skin
7) Weakness and fatigue
8) Dizziness and fainting
9) Headache and nausea
10) Hot/dry/flushed skin
11) No longer sweating
12) Agitation and confusion
13) Decreased level of consciousness and awareness
14) Vomiting
15) Seizures
16) Shock
17) Cardiac arrest

"Hot" is a subjective term describing the temperature of something; Not debatable is that heat transfers from a higher-temperature thing to a lower-temperature thing. Heat transfer can occur with contact (hand burned by touching a hot stove) and without contact (hand warmed by radiant energy of unshaded sunlight).

The human body seeks to maintain a core temperature generally between 36 C (96.8 F) and 38 C (100.4 F). In reaction to rising body temperature from 1) just being in a hot environment, 2) performing physical

PNW June '21 Heat Dome Human Illness from Heat Stress

activities or 3) especially performing physical activities in a hot environment, the human body attempts to remove heat by circulating blood close to the skin's surface along with sweating. Heat is lost and the body cooled when water in liquid sweat covering hot skin evaporates and leaves the cooled skin as a gas.

With the human body relying heavily on evaporative cooling to control core temperature, relative humidity matters even west of the Rockies where relative humidity is typically very low**. True or False?** It's not the heat … it's the humidity. **False:** It's both.

Beyond this article's scope: Bing "wet-bulb temperature extremes" to read about dangerous humid heat extremes once unthinkable now very possible and occasionally measured globally. Generally, it's accepted that even healthy people – 1) wearing breathable clothing, 2) resting in the shade, and 3) drinking all the cool water they want – will suffer heat-related illness up to death when trying to exist for a period of time in an indoor or outdoor environment with a wet-bulb temperature of 35 C (95 F) or higher.

On sunny, hot (possibly humid) days, STAY ALIVE!

Additional URLs for info on heat-related illness and populations with very real heat stress exposures right now:
https://www.doh.wa.gov/Emergencies/BePreparedBeSafe/SevereWeatherandNaturalDisasters/HotWeatherSafety
https://insideclimatenews.org/news/09072021/for-farmworkers-heat-too-often-means-needless-death/
https://www.theguardian.com/us-news/2021/jul/10/california-central-valley-extreme-heat-race
https://ehs.research.uiowa.edu/occupational/heat-stress#:~:text=What%20is%20Heat%20Stress%3F%20Heat%20stress%20occurs%20when,sick%2C%20and%20often%20loses%20the%20desire%20to%20drink.
http://www.dmp.wa.gov.au/Documents/Safety/MSH_G_ManagementAndPreventionOfHeatStress.pdf
https://www.theguardian.com/environment/commentisfree/2021/jul/04/in-karachi-hot-weather-is-normal-but-44c-feels-like-youre-going-to-die

Actions and Precautions for Preventing Heat-Related Illness

1) Drink plenty of cool water (one glass every 20 minutes).
2) Wear light-colored, loose-fitting clothing made of breathable fabric, such as cotton and a wide-brimmed hat blocking sunlight while still allowing air flow.
3) Take rest breaks in a shaded, cool, well-ventilated area.
4) Do hard physical work during the coolest parts of the day, Don't do hard physical work from 11 a.m. to 3 p.m.
5) Know your personal risk factors, such as poor acclimation to heat exposure, medications that dehydrate, poor health, obesity, advanced age and any pre-existing medical conditions.
6) Know the symptoms of heat-related illnesses and frequently assess whether you and your co-workers are exhibiting any.

STFS member with cherry problem needs help

In late June '21, Joan M. who lives in north Seattle area wrote in part "...I recently sprayed both my Rainier and my Lapins with **Bonide Fruit Tree Spray** (active ingredients Captan 11.76%, Malathion 6%, and Carbaryl .3%). Within 2 - 3 days of spraying, all the Lapins got brown spots on them. (I may have over-sprayed?) They also have little pinpricks on the surface of the skin. I cut a few open and can't see any eggs or worms, and the cherries are still fairly hard. I have had traps with Apple Cider vinegar up all season and have caught a number of spotted wing Drosophilia amongst other species.

I have sprayed a couple of times previously this season with **Monterey Garden Insect spray**, (Spinosad (A & D) .5%) but that didn't have any adverse effects as far as I could tell.

Please see the attached photo. I'm almost at the point where I'm done with the cherry trees. The 1st few seasons (the trees are about 7 or 8 years old) I had no problems with pests and the Lapins produced bountiful harvests. The Rainier has never done well, but I was advised to keep the tree, just as a pollinator for the Lapins. Last year, I didn't keep on top of things and every single Lapin cherry and most of the Rainiers had worms by harvest time."

If anyone has helpful advice, please email Joan M. (joanmaybank@gmail.com) directly.

More STFS member brown-bottomed stone fruits:

Longtime STFS member Greg Giuliani offered the following personal photo and online reference material. Thanks, Greg.

Stone fruit brown rot can cause serious damage to plums, pie cherries and apricots grown in the PNW. Spread of brown rot fungi (*Monolinia fructicola* and *M. laxa*) can occur amongst stone fruit while ripening on the tree and later while in storage rendering infected fruit indelible.

Overwintering of brown rot fungi can be lessened by 1) immediately removing infected blossoms, spurs, and cankered twigs that may exude a sticky gum below the diseased area of the branch and 2) raking up orchard floor debris including shriveled fruit each fall.

Each spring, brown rot fungi grows and sporulates during cool/wet conditions. Wind and rain spread spores to stone fruit blossoms. Brown rot fungi can spread from the infected flower over the stem and into the bark. A visible small canker may form in the bark beneath the dead, infected flower.

Over the summer, fungal spores emanating from the canker drift and land on ripening stone fruit. Spores exploit cuts/abrasions on fruit skins and establish fungal colonies that in turn produce visible circles of tan or gray spores. Spores continue to spread and infect more adjacent ripening/ripe fruit even after harvest.

Restating: Vigilant removal of infected fruit tree parts from the orchard ASAP minimizes the proliferation of and damage by stone fruit brown rot fungi. **Also:** harvest and remove from the orchard all fruit as it ripens. **Important:** Bury all infected tree parts/fruit as well as over ripe fruit in the compost pile.
Source URL:

Plum brown rot: Starts with discoloration ending with pustule-like fungus that sporulates. Photo from Greg.

Cherry brown rot. Sporulating pustules on diseased area of fruit. Photo from source URL.

https://extension.umn.edu/plant-diseases/brown-rot-stone-fruit#:~:text=How%20does%20brown%20rot%20survive%20and%20spread%3F%20Brown,fruit%20on%20the%20trees%20or%20on%20the%20ground.

Grow your own Goji berries

Looking to expand your homegrown fruit diversity with only minimal increase in garden or water footprint? Try container-planting the goji shrub then reap an abundant crop of sweet, nutritious goji berries.

Goji berry is the fruit of two closely related species (*Lycium barbarium* and *L. chinense*) of boxthorn in the nightshade family (*Solanaceae*). For some reason, goji sometimes is also called wolfberry. However wolfberry (aka western snowberry) is a woody flowering plant of the honeysuckle family.

Goji berries ripen on long, flexible canes and can be picked in the PNW for fresh consumption, freezing or drying as early as late June if not earlier and then continuously throughout the summer.

Goji can be grown in the ground or containers. In the PNW, productive, mature goji shrubs can be maintained in 3+ gallon black plastic nursery pots and fruit-laden canes supported with stacked tomato cages. Container planting allows for easier monitoring of soil moisture and conservation of applied water.

Goji bears self-pollinating purple flowers. So only one goji plant is necessary to produce goji berries, but generally, more quality fruit results when multiple varieties of self-pollinating plants are placed nearby.


Goji flower

Goji can be propagated from cuttings or seed germination.


Goji seedlings

In the past 20 years, goji berry fruit has become more available in the USA. Pouches of dried goji berry fruit occasionally are stocked in PNW Costco stores.

While "superfood" claims and health benefits tagged to goji berry consumption probably are exaggerated, human consumption in Asian cultures has occurred for many centuries; goji berry is generally regarded as safe to consume. Online sources list several recent instances of foreign produced goji berry sold in the USA being contaminated by pesticide and fungicide residue. One more reason to grow your own fruits including goji berries.

If you're interested in swapping viable goji seeds and vine cuttings, contact Trent Elwing (email trelwing@gmail.com phone/text 206.517.3118).

Source URLs:

https://en.wikipedia.org/wiki/Goji
https://en.wikipedia.org/wiki/Symphoricarpos_occidentalis
https://www.webmd.com/diet/goji-berries-health-benefits-and-side-effects

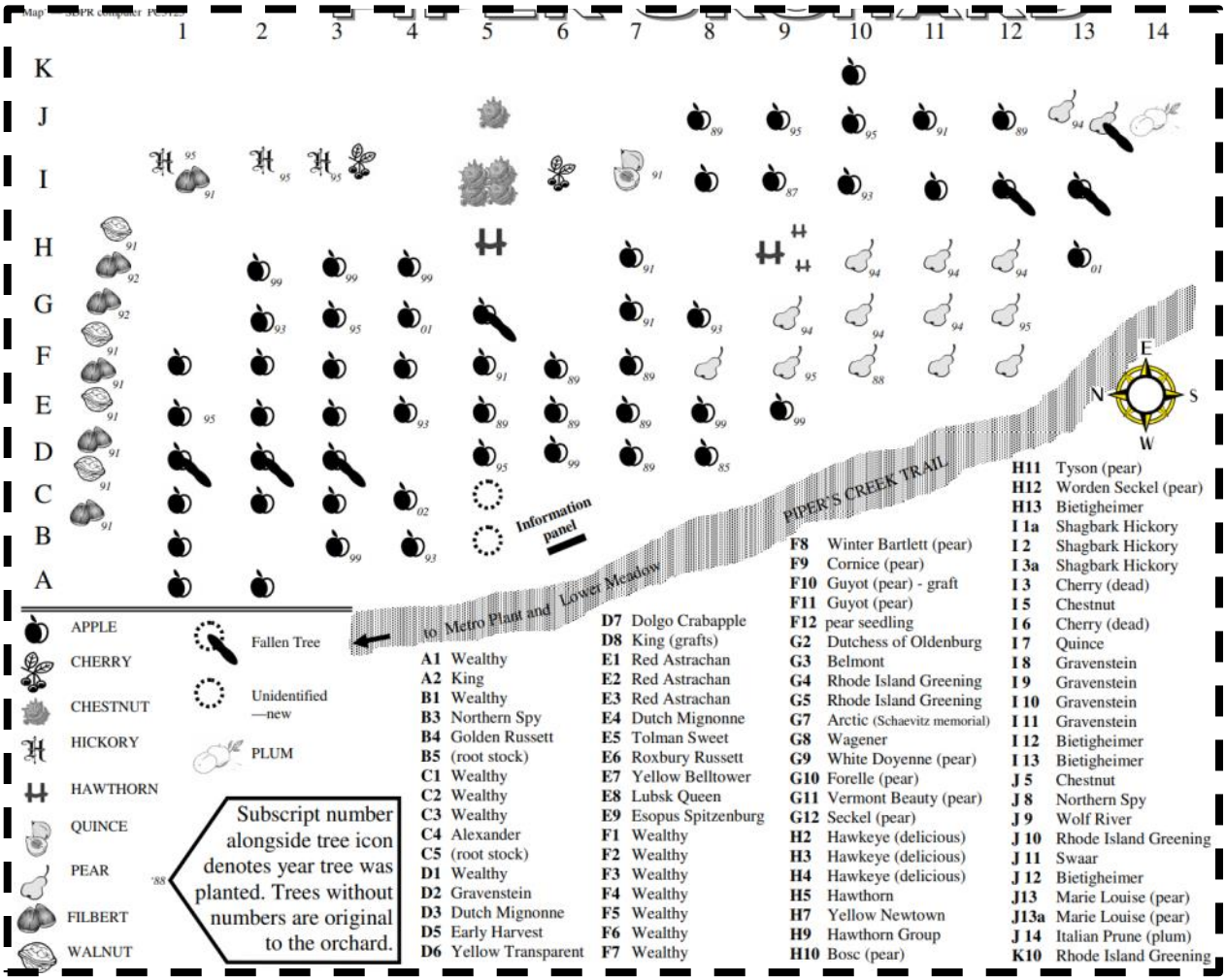

Goji starts from cuttings

Scenic Hike to Piper's Orchard

Seattle nature and fruit lovers: Lower tailpipe emissions by staying local for a calming forest hike and historic orchard visit.

From the Carkeek Park (950 NW Carkeek Park Rd. Sea, 98177) website (http://www.seattle.gov/parks/find/parks/carkeek-park): This popular park offers extraordinary views of Puget Sound and the Olympic Mountains. Explore the secrets of this northwest Seattle watershed, nine miles from downtown. Here, 220 acres of lush forest, meadows, wetlands, creeks, and beach are formed by the magic of water and time. Walk the Pipers Canyon Story Trail, play on the uniquely salmon themed play area, or touch time at the historic Piper Orchard.

From Piper's Orchard website (https://pipersorchard.org/): Piper's Orchard was planted on the Piper Family Homestead sometime after the Great Seattle Fire of 1889. Andrew W. Piper had run the Puget Sound Candy Factory which burnt down before they moved to what was then the outskirts of Seattle with his wife Mrs. Piper, Minna (Hausman) and sometimes perhaps when she was with her German pioneering lady friends, Wilhemina.



Directions to Piper's Orchard: Piper's Orchard in Carkeek Park, Seattle, WA, a historic fruit orchard, may be reached from Carkeek Park's lower meadow parking lot (closest restroom available here) by walking up along Piper's Creek (tranquil, cool, shaded with slight incline). There's also a trail leading down from the Nancy Malmgren Environmental Center parking lot. An alternative way to reach the orchard is by following the ravine from the park's southerly McAbee entrance. The McAbee parking lot and trailhead are behind the QFC from Holman Road, off of NW 100th Pl. at 6th Ave. NW.

The always popular Pipers Orchard Festival of Fruit is currently being planned to resume as an "IN Orchard" event on a Saturday in October 2021. Past festivals have featured Mason Bees, Apple ID, Juice Pressing, Heritage Apple Tasting with Master Gardener and City Fruit representatives on hand to answer attendees' gardening and orcharding questions. For more info on Pipers Orchard activities and how to get involved, email Paul Brookshire (pkbrookshire@me.com), Piper's Orchard (pipersorchard@gmail.com) or check out the Piper's Orchard FaceBook page.

For full Piper's Orchard Tree map, visit https://pipersorchard.files.wordpress.com/2010/03/piper-orchard-map.pdf

Apricot Almond Cornmeal Mini Cakes

Contributed by Tracey Bernal

This is a favorite recipe for apricot season, adapted from The Violet Bakery Cookbook. Now is the time to take advantage of the brief availability of fresh apricots. I love to freeze half of these little cakes to enjoy later when the weather has become too warm to do much baking.

1 pound apricots (you may not need all of them)

2 tablespoons baking powder
½ teaspoon salt
1 ¾ cups plus 2 tablespoons fine cornmeal

1 cup plus 1 tablespoon unsalted butter, room temperature
15.5 ounces almond paste, broken into pieces
¼ cup plus 2 tablespoons of sugar
Zest of one orange
3 eggs

1. Cut up the fruit into quarters (depending on size of fruit) and set aside.

2. Preheat the oven to 375 degrees.

3. Line a muffin tin with paper liners, preferably double line, as the fruit becomes very juicy as it bakes.

4. In a medium bowl, whisk together the baking powder, salt, and cornmeal.

5. In a separate bowl, cream the butter, almond paste, sugar, and orange zest until pale and fluffy. 6. Add the eggs and mix well. 7. Add the dry mixture to this and mix well.

8. Scoop into the lined muffin tin. 9. Press the apricot pieces on top of the muffins. 10. Sprinkle with a bit of sugar, turbinado sugar if you have it, and

11. Bake for about 30 minutes, until a skewer tests clean. 12. Cool for 10 minutes, remove from the tin.

Calendar of Fruit-Related Events

❖**Tuesday 21 July 2021 7:00 PM to 7:45 PM_Online: Snohomish County WSU Master Gardeners FREE online class via zoom – Home Gardener Drip Irrigation:** For the home gardener drip irrigation has many advantages including healthier and more productive crops. All of the components for a simple system are available at your local hardware store. We will show you the basics of how to put a simple system together. With the cost of water rising, the up-front costs of installing drip or soaker hoses may be recouped in a season. Save time, save money by using less water.
Register ASAP @ (https://wsu.zoom.us/meeting/register/tJMqc-mvrDoiHNdUuz0N0nNWtnPGaQP8_A3N)

❖**Saturday 7 August 2021 Time 9:30 AM to 10:30 AM_Online: Bellevue Demo Garden Workshop FREE online class via zoom – Building a Pollinator Garden: from Lawn to Blooming Exuberance. Speaker Sharon Collman,** WSU educator in horticulture and IPM since 1974. The workshop will document the transition from unhealthy lawn and sheared conifers to a garden of perennials, flowering trees and lots of buzzing and water quality benefits. She is most passionate about educating people about insects and their role in our lives, and she photographs insects for her enjoyment. https://www.mgfkc.org/education/bdg-workshops

Zoom Link https://zoom.us/j/95231928282 **Meeting ID**: **952 3192 8282** [**By phone**: Dial in: 1 253 215 8782 **Meeting ID**: 952 3192 8282]

STFS: Who Are We & What We Do

Western Cascade Fruit Society (WFCS), a 501(c)(3) non-profit organization, was founded in 1980 & is made up of nine Western Washington chapters, including STFS, full of helpful hobby orchardists & backyard fruit growers.

STFS members receive automatic membership in WCFS. WCFS publishes a quarterly BeeLine electronic newsletter to inform members of events, tours, articles & reports. WCFS provides other member services, including an online member forum, an online chapter-wide event calendar & an online home for chapter sites. See www.wcfs.org.

Seattle Tree Fruit Society (**STFS**) is a chapter of WCFS. The purposes of STFS are listed in Article II of STFS By-laws amended & restated as of 18 January 2014:

STFS will bring together people …
1) to promote & stimulate interest in growing fruit bearing trees, shrubs & vines in urban areas,
2) to encourage propagation of desirable fruit varieties suited to the local climate,
3) to disseminate pertinent horticultural information to its members & the general public through the use of fruit shows, orchard tours, meetings, seminars, workshops, publications & other media,
4) to provide financial & other support to our area's fruit research and/or projects, &
5) to join with other organizations in promoting tree fruit in the Western Cascade region.

STFS members share an interest in growing fruit & nut trees, berries, kiwis, grapes & other fruit. We offer information on adapted varieties, current growing techniques & share our own experiences growing fruit.

STFS members meet monthly from Sept to May usually in-person on a Saturday morning in Seattle's Magnuson Park. In-person meetings typically include speakers presenting on topics such as grafting, pruning, pest control, plant health & fruit preservation tailored to Western Washington growers. STFS members receive both the STFS online monthly newsletter Urban Scion Post (USP) & the WCFS online quarterly BeeLine. STFS is online at www.seattletreefruitsociety.com and www.facebook.com/SeattleTreeFruitSociety/

The STFS membership is Seattle Tree Fruit Society. The goals of STFS are achieved by STFS members. Please contact STFS representatives listed in this newsletter and communicate what STFS can do for you and what you can do for STFS. When more STFS members get involved, STFS does more & attracts more STFS members who get involved.

Seattle Tree Fruit Society

seattletreefruitsociety@gmail.com
www.seattletreefruitsociety.com
www.facebook.com/SeattleTreeFruitSociety/

PRESIDENT Mike Ewanciw 206.683.9665
(2-year term expires Jan 2023)
VICE PRES. Tracey Bernal 206.913.3778
(2-year term expires Jan 2023)
SECRETARY Sue Williams 206.383.8033
(2-year term expires Jan 2023)
TREASURER Trent Elwing 206.517.3118
(2-year term expires Jan 2023)

MEMBERSHIP Trent Elwing 206.517.3118
HOSPITALITY Judy Scheinuk 206.200.1483
scheinukj@gmail.com

STFS DIRECTORS
#1 - Laure Jansen
(3-year term expires Jan 2024)
#2 - Linda Sartnurak 425.271.6264
noilinda@yahoo.com
(3-year term expires Jan 2024)
#3 - Ed Scullywest 425.286.4030
(3-year term expires Jan 2024)
#4 - Rick Shultz rshultz@highline.edu
(3-year term expires Jan 2024)
#5 - Gudrun Utz
(3-year term expires Jan 2024)
#6 - Vacant—please volunteer
(3-year term expires Jan 20??)
#7 - Vacant—please volunteer
(3-year term expires Jan 20??)

USP NEWSLETTER EDITORS
Trent Elwing trelwing@gmail.com
Laure Jansen seattleorchardist@gmail.com
Tracey Bernal tmjbernal0216@gmail.com

STANDING COMMITTEE CHAIRS
Orchard - Vacant—please volunteer
Events - Vacant—please volunteer
Programs - Vacant—please volunteer

NEW MEMBERSHIP & RENEWAL FORM

Seattle Tree Fruit Society

www.seattletreefruitsociety.com
A Chapter of the Western Cascade Fruit Society
www.wcfs.org

Name:	Phone:
Address:	
City, State, ZIP:	
Email address:	

DUES (includes STFS and Western Cascade Fruit Society)

New Member – Regular Rate – $25	_____
New Member – Limited Income or Student Rate – $15	_____
Renewing – Regular Rate – $25	_____
Renewing – Limited Income or Student Rate – $15	_____
Optional: Donation to support fruit research ($5 min)	+_____
Optional: Donation (other purpose) ($5 min)	+_____
TOTAL	_____

make checks payable to STFS., and mail with this form to:
STFS, c/o Trent Elwing,
1035 Alaska Ave E, Port Orchard, WA 98366

Our STFS club is run by and for our members - volunteers make things happen. If you would like to help, contact any Officer or Board member (see your newsletter) or email seattletreefruitsociety@gmail.com

How do I know when my annual STFS membership will expire?

Back in March 2020 before the COVID-19 pandemic took hold, printed USP newsletters were USPS-mailed, and the STFS membership renewal date was printed above the mailing address of each member's hardcopy printed newsletter.

To minimize spread of the coronavirus causing COVID-19, USP newsletters are now electronic and emailed. A reminder to renew your STFS membership no longer is printed above the mailing address.

Depending upon when a STFS member joins, annual memberships expire at the end of March, June, September or December each year.

Trent Elwing, STFS membership coordinator, will email STFS members one month prior to an expiring STFS membership reminding of the need to renew shortly and how to renew.

Need to know now? Contact Trent
(phone/text: 206.517.3118 email: trelwing@gmail.com)