



the BeeLine



Summer 2018

Newsletter of the Western Cascade Fruit Society

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WANTED

Enthusiastic People to Share their Fruit Knowledge with the Public

Please come to Puyallup between Friday, August 31, 2018 and Sunday, September 23, 2018 to staff the **WCFS booth at the Washington State Fair.**

Shifts average 4 hours each & there are 3 shifts a day. 9:30 or 10:30 to 2, 2 to 6, & 6 to 9:30 or 10:30 depending on the day.

The Fair will be dark (closed) all Tuesdays – Sept. 4, 11, & 18 as well as the first Wednesday – Sept. 5.

In return for your help, we offer a free entry ticket and access to free parking. Come staff the booth & see The Fair!

Check your calendars, then contact Bill Horn at hornbill66@msn.com (best) or 253-770-0485.

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WCFS Chapter Highlights in July and August

OOS July picnic, Aug. Chip budding

VIFC July Strawberry Festival, Summer pruning, Chip budding, Aug. Salmon Bar B Q at Sunrise Ridge

NOFC Aug. Jefferson County Fair

SSFS July pruning workshop

PFC Aug. Kitsap County Fair

BIFC July-Aug. Garden tours, Chip budding

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NAFEX 2018 Annual Meeting

Danville Illinois, July 26th-28th

Contact: Barbara Lehmen <bllehmansew@gmail.com>

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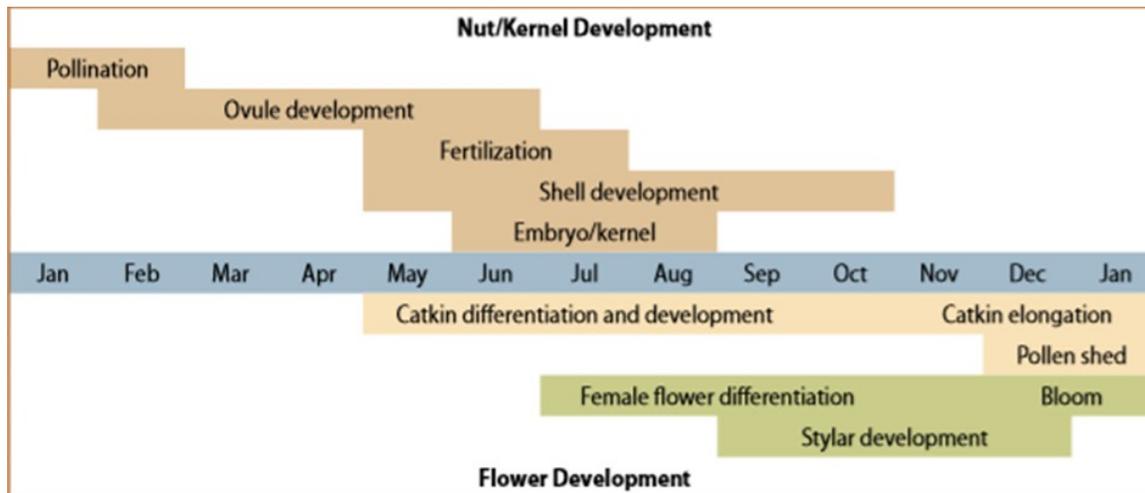


The BeeLine is a quarterly publication of Western Cascade Fruit Society, a non-profit 501(c)3 corporation in the State of Washington.

Growing Hazelnuts in the Pacific Northwest Pollination and Nut Development

Jeff Olsen, November 2013

<https://catalog.extension.oregonstate.edu/em9074>



Nut, Kernel, and Flower Development -

The life of a hazelnut begins with the formation of flower clusters more than a year before harvest. During fruit bud differentiation, a cell forms either a reproductive part, such as a flower, or a vegetative part, such as a shoot. Male catkins begin to form in mid-May and begin to appear in June, but they do not reach maturity until December or January. Female flower parts begin to form at the end of June and beginning of July and are first seen in late November or early December. Most flowers form on the current season's growth in the axils (where leaves join the stems). On some varieties, flowers also form on the peduncles (stems) of the catkins.

Peak pollination season is from Jan. through Feb., but this can vary depending on weather conditions. During the pollination season, the female cluster is a bright red tuft of feathery stigmatic styles projecting out of the bud scales. Within the bud scales are the lower portions of 4–16 individual flowers. Female hazelnut flowers are very unusual. At pollination, most plants' flowers have an ovary that contains ovules with egg cells ready for fertilization. Hazelnut flowers, however, have several pairs of long styles with surfaces that are stigmatic and receptive to pollen, and a tiny bit of tissue (0.25 mm or less) at the base called the ovarian meristem.

Within 4–7 days after pollen transfer, the pollen tube grows to the base of the style, where the tip of the tube bearing the sperm becomes "walled off" and enters a long resting period. Pollination stimulates the ovary to develop from the tiny meristematic tissue at the base of the flower. The ovary grows very slowly the first 4 months and then begins to grow rapidly, attaining 90% of its growth in the next 5–6 weeks. During the middle of this rapid growth period, when the ovaries are 8–10 mm in diameter, the ovary becomes a mature organ containing egg cells.

The resting sperm become activated, secondary pollen tubes begin to grow, and fertilization takes place. This 4- to 5-month lapse between pollination and fertilization is one of the unusual features of hazelnut floral biology. In most other plants, fertilization follows pollination by a few days.

After fertilization, the kernel develops rapidly. By mid-July, the ovary's shell is full size, and shell hardening is well under way. Kernels reach full size about 6 weeks after fertilization (early August). From this time until harvest, maturation changes occur. Oil content increases. Mid-Sept. to Oct., depending on the variety, the husk surrounding the nut dries and spreads open, and the nut falls to the ground.

Pollination - Hazelnuts are monoecious, meaning they have separate male and female flowers on the same tree. Male and female flowers may bloom at different times.

Cont. on pg. 3



Hazelnuts cont. from page 2

Hazelnuts are self-incompatible, which means a tree cannot set nuts with its own pollen. Also, certain combinations of varieties are cross-incompatible. That is, pollen of some varieties will not set nuts on certain other varieties.

A single gene, located at a specific position on the chromosome, controls this type of incompatibility. There are more than 30 known alleles (forms) of this gene, each of which is identified by a number. Because hazelnuts have two sets of chromosomes, they have two alleles for this gene—one on each of two chromosomes. These alleles are identified as SxSy. For example, the alleles for the variety Lewis are S3S8. In the female flower, alleles on both chromosomes are expressed. The pollen from the male flower may express one or both alleles. If an expressed allele in the pollen matches either of the alleles in the female flower, the cross is incompatible.

Hazelnut trees are wind pollinated, and there must be a compatible pollinizer variety for effective pollination. Additionally, the time of bloom for male and female flowers is important because receptivity of the female flowers must overlap with the time of pollen shed. We recommend placing three pollinizer varieties (early, mid, and late) in an orchard so pollen is available throughout the extended period of time during which female flowers appear. Stigmas are receptive to pollen from the time they first appear as a tiny red dot at the tip of the bud until they extend to their maximum length. In some seasons, this occurs from late November until early March.

Pollinizer Spacing and Placement

Each catkin produces more than 1 million functional pollen grains, and each tree usually bears several thousand catkins. The quantity of pollen usually is not a factor in determining the number of pollinizer trees needed, but the placement of pollinizer trees in the orchard can be.

The wind can carry pollen grains great distances, but the density of the pollen cloud decreases with the distance from the source tree. Thus, distance is the most important consideration in pollinizer placement. To take best advantage of the wind, disperse pollinizer trees throughout the orchard rather than plant them in solid rows. Some evidence suggests that nut set decreases when the distance between pollinizers and recipient trees is more than 50 feet (15 meters). Standard pollinizer placement is every third tree in every third row (3 × 3) for a standard, low-density orchard planted at 20 × 20-foot spacing. In this arrangement, about 11% of the trees are pollinizers, and the pollinizers are within the recommended distance range of recipient trees.

Blanks, Brown Stain, and Flower Cluster Loss Anything that prevents normal nut development reduces yield. The three most common problems are blanks, brown stain, and the early drop of female flower clusters.

Blanks

Blank nuts (a shell without a kernel) reduce the yield potential of all varieties. Blanks occur when pollination stimulates the shell to develop but the kernel fails to develop normally. The kernel either fails to grow at all or starts to grow and then aborts, often in the early stages of growth. Some kernels might grow to more than half their expected size and then shrivel. Processors cull out these small kernels along with blanks.

Lack of pollination is not the cause. If pollination had failed, the shell would not have developed at all. Factors that contribute to a high percentage of blank nuts are not definitely established. Research suggests the following possibilities: insufficient soil moisture in midsummer, low light levels in overgrown orchards, tendency of main tree variety, pollinizer variety, and inadequate tree nutrition (particularly nitrogen, boron, and potassium).

Brown Stain

Brown stain is a disorder of unknown cause that can result in severe crop loss in some seasons. Brown stains are seen on the sides of nuts in early summer. Affected nut clusters often drop from the tree in July and August. Many affected nuts are blanks or only partially filled. Among the main commercial varieties, only Barcelona has a serious brown stain problem.

Flower Cluster Loss

Early drop of female clusters is even more serious than blanks. In Barcelona, 35%–50% of clusters produced on a tree can drop prematurely. The potential loss from these “developmental dropouts” amounts to 75%–85% of the total individual flowers produced by the tree.

The majority of flowers in these clusters have been pollinated, and development has progressed for a few months at the normal slow rate before growth is arrested. Although the individual flowers are larger (1–2 mm diameter) at their base than at the time of pollination (0.25 mm), the clusters are still so small that their dropping is not conspicuous in the orchard. Some of the flowers in clusters that do not drop from the tree (because at least one nut has developed normally) also are subject to arrested growth. Close examination of nut clusters during summer can reveal a few tiny, undeveloped flowers embedded among the fleshy husks.

Foliar-applied boron can increase nut cluster set by as much as 33%. Use a single spray of Solubor (sodium pentaborate) around mid-May. Do not apply more than 1 lb of actual boron (4.88 lb Solubor) per acre (1.1 kg actual boron or 5.48 kg Solubor per hectare) because excess boron can be toxic (Figure 5). You can make annual applications of foliar boron until leaf boron concentrations are 200 ppm. Then skip a year or two of foliar boron.

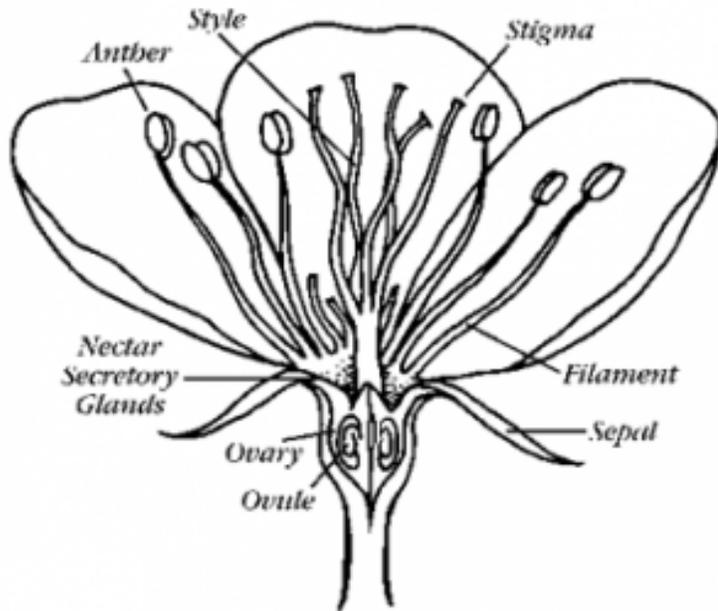
OSU Extension publications on hazelnut production are available through the OSU Extension Catalog: extension.oregonstate.edu/catalog/ * * * * *

Get Ready for Thinning Season

Tory Schmidt, Tree Fruit Research Commission, Written March 10, 2016, updated April 1, 2018.

Spring is here and it is time to get ready for thinning season. While all aspects of orchard management are important, there may be no decision made by growers more critical to their economic bottom lines than how to thin their crop. Choices you make regarding your crop load management will fundamentally determine the primary drivers of your profitability: fruit size, fruit quality, total yield, and return bloom, not to mention how much time and money you will spend to hand thin, harvest, and prune your trees.

One of our best cooperators has a rather satirical, but sage perspective on the impact of these decisions: "Don't worry if you mess up your thinning this year – you'll have 23 months to figure out how to get it right the next time around."



Basic flower anatomy including style.

Here are some key points to keep in mind as you develop your thinning strategies:

The earlier you thin your crop, the better chance you'll have to improve fruit size and return bloom. Aggressive targeted pruning is a good start and chemical bloom thinners tend to outperform chemical postbloom thinners.

Despite many urban (rural?) legends spread around coffee shops and over the hoods of pickups, WA apple growers rarely over-thin their crops with chemicals. Instances of poor fruit set usually have a lot more to do with weak bloom and/or pollination rather than excessive activity of chemical thinners. That being said, if you haven't over-thinned a block recently, you probably aren't being aggressive enough in general.

Prolonged periods of warm, cloudy spring weather tend to increase carbohydrate stress in fruit trees and are likely to amplify the effects of chemical thinners like lime sulfur, NAA, and carbaryl which increase plant stress. Conversely, cool, sunny weather often decreases chemical thinner efficacy.

Research and industry experience have shown oil + lime sulfur bloom thinning programs to be our most effective chemical options. Various combinations of carbaryl, NAA, and BA work well as postbloom thinners, especially with temperatures in the low to mid 70s.

Many growers feel they are improving their crop load management with the use of the pollen tube growth model to determine the application timing of their lime sulfur or oil + lime sulfur applications. WSU's AgWeatherNet hosts models for Gala, Fuji, Golden Delicious, and Cripps Pink at <http://weather.wsu.edu>. You will need to have an account with Ag Weather Net (free of charge) and will find the pollen tube model under the "Crop Models" tab on the left side menu.

Pay attention to the anatomy of your flowers– it takes longer to fertilize or "set" a flower with a long style (see figure) than a flower with a short style, meaning you would need to apply a chemical bloom thinner earlier to get good results in a block with short, squatty floral structures.

One general maxim we have learned through the years: If you aren't worried in June that you dropped the whole crop, you probably aren't going to be happy at harvest or next spring, so put on your big kid pants and BE AGGRESSIVE.

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WCFS News

WCFS Summer Board Meeting via google hangout teleconference, June 9, 2018, 10:am

Approval of Minutes for the April 7 Board and General Membership Meeting and Treasurer's Report. Written Chapter Reports will become the rule rather than oral reports during a teleconference.

Elizabeth Vogt reported on Fruit Research Grant Program. Rebekah Jackson reported on photos for Hortsense website. Zoom audio and video conferencing by computer, as well as telephone conferencing is a useful tool. We may be able to use the Free system if we can limit our meeting to 40-60 minutes. The paid subscription for our group would be \$14.99/month. Both free and paid subscriptions permit 100 participants. Marilyn Couture and Patti Gotz will test Zoom prior to the next teleconference.

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Apple and Pear Scab

Authors: D. D. Giraud, UC Cooperative Extension, Humboldt Co.; R. B. Elkins, UC Cooperative Extension, Lake/Mendocino Co.; and W. D. Gubler, Plant Pathology, UC Davis. UC Statewide IPM Program, UC, Davis, CA, UC ANR Publication 7413

Apple and pear scab are two different diseases that look very similar and are controlled in similar manners in home gardens. Both cause spotting and scabbing of fruit, especially during wet springs but different fungi cause them.

The fungus *Venturia inaequalis* causes apple scab. Apple scab is a serious disease of apples in California, resulting in loss due to severe surface blemishing of fruit. It is most severe in coastal and foothill areas where spring and early summer weather is cool and moist. However, it can be a problem wherever apples grow when conditions are favorable for pathogen development. Apple scab also is a problem on ornamental crabapple.

Pear scab, which the fungus *V. pirina* causes, results in similar blemishes on pear fruit. The disease is most prevalent in the North Coast production area. However, *V. pirina* won't affect apples nor can the apple scab fungus cause problems on pears. Both have quite limited host ranges.

IDENTIFICATION

Scab first appears as yellow, or chlorotic, spots on leaves. As the disease progresses, dark, olive-colored spots form on leaves, fruit, and—in severe cases—stems. Spots on the undersurface of leaves sometimes look velvety due to fungal growth. Affected leaves might twist or pucker; in minor cases, this will affect only a few, irregularly scattered leaves, but if the disease is severe, all foliage could show symptoms. Severely affected leaves often turn yellow and drop.

When scab affects flower stems, it can cause flowers to drop. Scabby spots can appear on fruit later in the season. These begin as velvety or sooty, gray-black (and sometimes greasy looking) lesions that sometimes have a red halo. The lesions later become sunken and tan and can have areas of olive-colored spores around their margins. Severely infected fruit becomes distorted and usually drops from the tree. Fruit also can crack, which allows entry of secondary organisms.

LIFE CYCLE

Both apple and pear scab pathogens overwinter primarily in infected leaves on the ground. Rainfall or sprinkler irrigation is necessary to release the spores. In spring, air currents or splashing water carry these primary spores (ascospores) from the infected leaves to flowers, leaves, or fruit where they germinate and cause primary infections. Pear scab also can overwinter in lesions on pear twigs in high rainfall areas.

Secondary spores, or conidia, are produced on infected leaf or fruit surfaces 8 to 17 days following primary infection. In the case of pears, this process also occurs on twig lesions. The disease continues to spread until conditions become dry or the plant tissue becomes more resistant to infection.

Infection occurs most rapidly between 55° and 75°F, and leaves or fruit must remain wet continuously for a minimum of 9 hours for initial infection to occur at these temperatures. If spring weather is dry from the green tip stage of bloom (when flowers are still green and petals aren't showing yet) through fruit set, scab usually won't be a problem.

DAMAGE

Scab can destroy an apple or pear crop. Young, infected flowers or fruit can drop, or the fruit can become malformed, cracked, and unsightly, rendering it unusable. Defoliation follows severe, early leaf infection. Late-season infections generally can be tolerated in backyard trees, because peeling the fruit will remove the pinpoint-sized scab lesions.

MANAGEMENT

Several techniques are available for controlling scab. Advantages of one method over another depend on the number of trees you are managing and whether conditions are ideal for disease development.

Cultural Control

For a single, backyard tree, removing—then composting or destroying—its dropped leaves in autumn or winter can limit the disease to tolerable levels. In plantings of several trees, additional steps might be necessary to effectively control this disease, especially in cool, moist coastal areas. These include applying zinc and fertilizer-grade urea (or some other nitrogen source) to leaves in autumn to hasten leaf fall and adding lime to leaf piles beneath the tree. In pears, apply urea by itself, because zinc can be phytotoxic.

If you are using sprinklers that wet any of the tree's foliage, irrigate between sunrise and noon to allow adequate drying time, or reduce the angle of the sprinkler.

Disease-resistant Cultivars

Major breeding efforts for disease resistance are ongoing in New York, where Easy-Gro, Enterprise, Freedom, Goldrush, Jonafree, Liberty, Prima, Priscilla, Redfree, Spigold, Williams Pride, and many newer varieties appear to be resistant to scab. Scab-resistant crabapples also are available.

European pear cultivars with negligible scab risk include Arganche, Barnett Perry, Batjarka, Brandy, Erabasma, Harrow Delight, Muscat, Orcas, and Passe Crassane. Because Asian pears (*Pyrus pyrifolia*) are a different species, they are less susceptible to scab than European pears (*P. communis*).

Chemical Control

Fungicide sprays are necessary only if the weather is rainy and leaves are likely to remain wet for 9 or more hours. Fungicide applications require careful attention to timing, as preventing early infection is the most important step toward successfully controlling later fruit infections. It is difficult to prevent secondary fruit infections once primary infections occur. Unlike peach leaf curl, treatments for scab made when trees are completely dormant aren't effective and aren't recommended. If treatments are needed, the generally recommended time is between when buds begin to break and a month after petal fall.

Cont. on page 6

Apple and Pear Scab cont. from page 5

If rain threatens, it is important to apply a fungicide as soon as you see the tips of the leaves emerge. A second application might be needed 10 to 14 days later if it is still rainy, once you can see blossom clusters but before they have opened. If rainy weather continues, apply a third spray toward the end of the bloom period, when most of the petals have fallen.

The surfaces of the fruit and foliage become more resistant to infection as the season progresses, although extended wet, foggy weather can lead to an infection period due to secondary spores that develop on leaves and fruit. If no scab infections are evident 1 month after petal fall, secondary infections probably won't be a problem, and fungicide sprays can stop. However, continue to watch for pinpoint scab symptoms, especially if late rains occur.

Several fungicides are available for controlling apple and pear scab. These include fixed copper, Bordeaux mixtures, copper soaps (copper octanoate), sulfur, mineral or neem oils, and myclobutanil. All these products except myclobutanil are considered organically acceptable.

Generally copper or Bordeaux sprays should be used only from green tip to full bloom. Later applications increase the risk of fruit russetting, a chemical burning of the fruit skin, although in some years this occurs even if you've used these materials only before full bloom. Fixed copper products include Lilly Miller Kop-R-Spray concentrate and Monterey Liqui-Cop. Bordeaux mixture is a combination of copper sulfate and hydrated lime that must be mixed just before application. For more information about how to prepare this fungicide, see *Pest Notes: Bordeaux Mixture*.

You can apply wettable sulfur through bloom and early fruit set. When using sulfur-containing compounds such as wettable sulfur, never apply them within 3 weeks of an oil application or when temperatures are near or higher than 90°F. Bordeaux has a narrower application time frame than other sulfur-containing products, because it contains copper, and shouldn't be applied after full bloom.

Myclobutanil (Spectracide Immunox Multipurpose Fungicide Spray Concentrate) is a synthetic fungicide that is effective against apple scab. You can apply it any time from green tip until after petal fall.

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Root for Roots

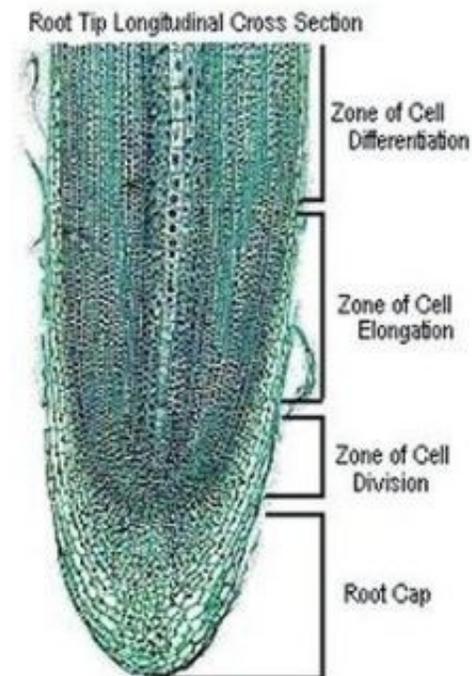
Ted L. Swensen, Pome News, 2009

The most important factor in having healthy roots is to have healthy soil. Underfoot is sand, silt, clay and humus; trillions of bacteria live in it; millions of protozoa live in it and plant roots live in it. Plant roots require these organisms in order to maintain healthy plants. We need to become more aware of how our feet, mowers, tillers compress and limit living space for soil organisms, including roots.

Each of these organisms requires living space. Life in the soil is lived on a micro scale and these small pores are large habitable spaces to the organisms that use them. The temperature in the soil is fairly constant; a couple of inches down the soil rarely if ever freezes, even when it is twenty below above. The humidity, which is important to many organisms, is high and much more constant than on the surface. These spaces must be maintained, which is why soil compaction is so detrimental to soil organisms and root growth.

Think of the amount of living space (microorganism housing) destroyed by a footprint on your soil.

There is an indirect and direct interaction among all of the dynamically changing parts, both living and nonliving and the plant root and it all starts at the root tip.



Microscopic picture of root tip

Root Structure

Roots only grow in length near the root tip. Nearly all roots have a root cap, which enables the root to penetrate soil. Behind the root cap is the zone of cell division (apical meristem), the only place in the root where new cells are added for root growth in length.

Cont. on pg. 7



Roots from page 6

The zone of cell division is followed by the zone of cell elongation. It is here, that water is added to the newly formed root cells, forcing them to get longer. This elongation pushes the tissues in front (apical meristem and root cap) through the soil.

Just above the zone of elongation is the zone of cellular differentiation. Root hairs form in this region. They increase the surface area of the root tip increasing absorption. Beyond the zone of cell differentiation no absorption occurs. The actual length of the growth and absorption portion of the root tip is about one centimeter. This bit of information should cause you to be especially careful in transplanting plants. Once the root tip is destroyed, and most are in transplanting, new root tips will form from tissue of young roots.

Root Depths

Roots will grow where there is a favorable environment, adequate oxygen, moisture, and soil microorganisms. Soil compaction is a significant factor in limiting root growth.

Tree Roots

Most fruit tree roots are between 6 and 24 inches deep. The concentration, or mass of roots, is typically greater near the soil surface. Because of that, water and nutrient absorption from soils is greater near the surface. In general, about 40% of the total water and nutrient absorption occurs in the upper quarter of the root zone, 30% from the second, 20% from the third, and 10% from the lowest quarter.

About 80% of a mature tree's root system is outside the drip line. Therefore, water and nutrients should be applied in this area, not under the tree.

For healthy plant roots we must provide nutrients and organic matter for soil microorganisms.

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The Summer 2018 BeeLine was produced by
Gathering Editor Marilyn Couture,
with input from membership.
Please contribute your articles for our next
Summer issue!

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

Email your articles to: couture222@msn.com
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Deraeocoris bug – Know the Good Guys in your Pear Orchard

Christopher Strohm, WSU Extension. June, 2018

The Deraeocoris bug (*Deraeocoris brevis*) or ‘derry’ is a common predator in Pacific Northwest orchards. The adult is active in spring long before most predators have emerged, meaning it has the potential to disperse to new areas during the early part of the season. One nymph is capable of eating up to 400 pear psylla eggs or nymphs.

Deraeocoris in Wenatchee Valley Pear Orchards

Beat trays and sticky card traps were used to detect Deraeocoris in orchards. Adults were active from late March onward and nymphs present from mid-June until October. Both adults and nymphs were much more common in organic pear blocks. Border habitat is recognized as being very important for this predator. Deraeocoris is considered a generalist and can be found on a variety of non-orchard plants. Orchards with woodland or riparian borders may support higher numbers of Deraeocoris bugs.



Adults are 3-6 mm with a dark, shiny body. The tips of their wings are translucent with a smoky gold-brown color. Nymphs can be as small as 0.5 mm and have hairs covering their bodies. Their color can range from pinkish white to mottled white-gray.

Biology

Deraeocoris bugs are predators of spider mites and many soft-bodied pest insects including pear psylla and mealybugs. They use piercing mouthparts to suck out the insides of their prey.

Development from egg hatch to adult takes about 25 days. During this period one nymph is capable of eating up to 400 pear psylla eggs or nymphs (Reidl, 1993).

Adults overwinter within and outside orchards. On warm days in March and April, adults will emerge and can be seen flying or crawling on plant surfaces. Overwintering females will lay eggs in plant tissue in April or May and it takes several weeks before nymphs hatch. There are two generations each season in the Pacific Northwest.

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Unappreciated Quince

Joseph Postman, plant pathologist and curator of living pear, quince, and hazelnut collections at USDA Ag Research Service, National Clonal Germplasm Repository, Corvallis, Oregon

The quince of Persia attains a weight of more than 3 pounds, ripens on the tree or in the store, and can be eaten like a soft ripe pear, according to a report in *The Horticulturist*, and *Journal of Rural Art and Rural Taste* of 1849 (Meech 1908). That description hardly fits the quince known in America today. During Colonial times a quince tree was a rarity in the gardens of wealthy Americans, but was found in nearly every middle class homestead. The fruit—always cooked—was an important source of pectin for food preservation, and a fragrant addition to jams, juices, pies, and candies. However, by the early twentieth century quince production declined as the value of apples and pears increased. Today's consumers prefer the immediate gratification provided by sweet, ready-to-eat fruits. After Charles Knox introduced powdered gelatin in the 1890s the use of quince pectin for making jams and jellies declined. U.P. Hedrick lamented in 1922 that “the quince, the ‘Golden Apple’ of the ancients, once dedicated to deities and looked upon as the emblem of love and happiness, for centuries the favorite pome, is now neglected and the least esteemed of commonly cultivated tree fruits.” Luther Burbank took credit for transforming this neglected fruit from a commodity that was “altogether inedible before cooking” into a crop he likened to the best apple. He half-jokingly cited a formula to make quince fruits edible prior to his breeding efforts: “Take one quince, one barrel of sugar, and sufficient water...”. Burbank released several improved cultivars in the 1890s that he hoped would raise the status of the fruit. Two Burbank cultivars, ‘Van Deman’ and ‘Pineapple’, are important commercially in California today, but overall quince fruit production in the United States is so small that it is not even tracked by the USDA National Agricultural Statistics Service. While underappreciated here, these Burbank quinces have found their way to other parts of the world where they are among the handful of cultivars considered worthy of production. In 1908, Meech described 12 quince varieties important in the United States at the time. Some like ‘Orange’ (syn. = ‘Apple’) were as often as not grown from seed rather than propagated as clones. Quince is easily grown from either hardwood or softwood cuttings, and is readily grafted onto another quince rootstock. Although it is an important dwarfing rootstock for pear, quince should not be grafted onto pear roots because this reverse graft is not reliable. Quince has a very extensive history in the Middle East. The ancient Biblical name for quince translates as “Golden Apple” and cultivation of *Cydonia* predates cultivation of *Malus* (apple) in the region once known as Mesopotamia, now Iraq.

Juniper and Maberly (2006) explain how this region is well adapted to cultivation of quince, pomegranate, and other fruits, but Mesopotamia was much too hot and dry for the cultivation of all but the most recently developed low-chilling-requirement apples. Quince was revered in ancient Greece, where a fruit was presented to brides on their wedding day as a symbol of fertility. It was mentioned as an important garden plant in Homer's *Odyssey*, and Pliny the Elder extolled its medicinal properties.

Botany and Intergeneric Liaisons *Cydonia oblonga* is a monotypic genus belonging to family Rosaceae, subfamily Spiraeoideae, tribe Pyreae, and subtribe Pyrinae (USDA 2009a). It grows as a multi-stemmed shrub or small tree and has pubescent to tomentose buds, petioles, leaves, and fruit. Leaves are ovate to oblong, about 2 inches across and 4 inches long. The solitary white flowers are 1½ to 2 inches across, have 5 petals, 20 or more stamens, 5 styles, an inferior ovary with many ovules, and are borne on current season growth. Bloom time overlaps with that of apples, usually beginning mid April in the central latitudes of the northern hemisphere. The fruit is a fragrant, many-seeded pome about 3 inches in diameter. Shape ranges from round to pear-like, flesh is yellow, and the Baileys refer to it as “hard and rather unpalatable”. Fruit size and leaf size of cultivated varieties can be many times larger than the wild type described above. All varieties are self-pollinating. While not as promiscuous as its cousins *Sorbus* and *Mespilus*, *Cydonia* has had a number of encounters with related genera that resulted in intergeneric offspring (hybrids).

Center of Origin *Cydonia* is native to western Asia, and the center of origin is considered to be the Trans-Caucasus region including Armenia, Azerbaijan, Iran, southwestern Russia, and Turkmenistan (USDA 2009a). During ancient times, quince spread from its wild center of origin to the countries bordering the Himalaya Mountains to the east, and throughout Europe to the west. It has many uses and traditions associated with it throughout this broad range. Several recent USDA funded plant collecting expeditions to Armenia, Georgia, and Azerbaijan returned with quince seeds and cuttings from these countries. The availability of *Cydonia* germplasm in the United States increased significantly from 2002 to 2006 as a result of these collections.

Cultivation for Fruit and Rootstock Production Worldwide, there are about 106,000 acres of quince in production with a total crop of 335,000 metric tons. Turkey is the largest producer with about 25% of world production. China, Iran, Argentina, and Morocco each produce less than 10%. The United States is a very minor player in quince fruit production with only about 250 acres planted, mainly in California's San Joaquin Valley. Burbank's ‘Pineapple’ is the most widely grown cultivar in that state and is said to be more flavorful than ‘Smyrna’. Quince fruit has a number of culinary uses. Dulce de membrillo, or quince paste, is popular in several European countries, particularly Spain. It is also much appreciated in parts of Latin America.

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Quince continued from pg. 8

This sweet, fragrant, jellylike confection is cut into slices and often served with a heady cheese. Quince is also served poached in either water or wine, and when so prepared develops a rich aroma and deep caramel-red color. In Armenia, quince is used in many savory as well as sweet dishes, and is often cooked with lamb. Quince fruit is also used by some home brewers to make very fine hard ciders.

While quince is still grown for its fruit in some parts of the world, in England, France, and the United States it is primarily grown for use as a dwarfing pear rootstock. In the region around Angers, France, quince has been used as a pear rootstock since before 1500. The French were growing quince plants from cuttings and layering in stool beds by the early 1600s and France became an important source of rootstocks around the world. Confusion arose about the identities of various quince rootstocks, and in the early 1900s researchers at East Malling in England collected rootstocks from a number of nurseries and designated clones with letters of the alphabet. Quince rootstock clones now available in the United States include Quince A and Quince C, which came from East Malling–Long Ashton (EMLA); and Provence Quince (= Quince BA 29-C) from France. A pear tree grafted onto Quince A will be about half the size of a tree grafted onto pear seedling rootstock. The tree will also be more precocious and fruit size will be larger. Quince C produces a tree slightly smaller and more precocious still. Provence Quince rootstock produces a pear tree slightly larger than Quince A or C. Some pear varieties are not graft compatible with quince and require a compatible interstem pear variety such as ‘Comice’, ‘Old Home’, or ‘Beurre Hardy’ as a bridge.

Landscape Use Few small trees rival the quince in becoming interestingly gnarled and twisted with age. Nonetheless, renowned Arnold Arboretum horticulturist Donald Wyman did not consider *Cydonia* worthy of his list of recommended landscape trees. He relegated it to his secondary list because of inferior flower interest, poor growth habit, and pest problems. However, *Cydonia* is an essential component of many historic gardens, and Frederic Olmstead included the common quince as a valuable plant in some of his landscapes. As a young tree, *Cydonia* may sucker profusely, and it takes some pruning effort during the first few years to establish an open-crowned specimen tree rather than a small thicket. Quince is such an interesting plant that it’s worth the pruning effort, and germplasm recently imported from other parts of the world may provide some relief from pest and climate challenges that limited its use in the past. Potential for Genetic Improvement Quince is adapted to hot, dry climates and to acid soils. Under favorable conditions, ripe fruit can become quite fragrant, juicy, and flavorful.

When grown in high pH soils, however, trees can become stunted and suffer iron chlorosis. In northern latitudes or colder climates the fruit of many cultivars does not fully ripen prior to the onset of winter, and in places where it rains during the ripening season, fruit cracking can be a big problem. Although most commercial quince production today is located in very warm areas, one of the largest quince orchards in 1895 was a 60 acre planting in upstate New York near Waterport. Whether grown for fruit production or for use as a pear rootstock, quince is impacted by several disease problems. Fire blight caused by the bacterium *Erwinia amylovora* limits the cultivation of quince either for its fruit or as a pear rootstock, especially in regions with warm, humid summers. The genus *Cydonia* is one of the most susceptible to fire blight in Rosaceae (Postman 2008). Leaf and fruit spot caused by *Fabraea maculata* (anamorph = *Entomosporium mespili*) can result in tree defoliation and production of disfigured, unmarketable fruit if not controlled. Powdery mildew and rust diseases also impact quince production. Genetic improvements needed for expanding the use of quince as a dwarfing pear rootstock include increased resistance to fire blight for warm and humid summer climates, and increased winter cold-hardiness for northern climates. Adaptation to alkaline soils will allow quince production to expand to more diverse soil conditions both as a rootstock for pear or for production of quince fruit. Quince for fruit production will benefit from earlier ripening, and elimination of summer “rat-tail” blooms, which predispose a tree to attack by fire blight. Fruits that are picked too green will never ripen properly. Resistance to the fungal rusts and mildews will allow quince to be produced with fewer pesticide applications.

Available germplasm: There are collections in Izmir, Turkey; Karaj, Iran; Italy; Greece, Spain; Ukraine; Southwest Russia; and Kara Kala, Turkmenistan. More than a dozen quince accessions from Kara Kala, are growing at the USDA genebank in Oregon. The NPGS *Cydonia* collection includes more than 100 clones with origins from 15 countries maintained as self-rooted trees in a field collection (Postman 2008). About half of this collection represents cultivars for fruit production, and the other half are pear rootstock selections, wild types, and seedlings. Observations made at the genebank have revealed a wide diversity of genotypes, some with resistance to *Fabraea* leaf and fruit spot, and a range of ripening seasons that may make it possible to produce quince fruit in short-season production areas. For nearly a century, the quince has been almost ignored for fruit production in North America, while many improvements have been made in the Middle East and central Asia. Germplasm is now available in the United States for expanding the use of *Cydonia* both as a rootstock for pear and as a fruit producing tree in its own right. As Luther Burbank concluded a hundred years ago, “The quince of today is, indeed, a half wild product that has waited long for its opportunity. It remains for the fruit growers of tomorrow ... to see that the possibilities of this unique fruit are realized”.

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Quince Cont. from page 9

This Chinese relative of *Cydonia* presently belongs to the genus *Pseudocydonia*, but has previously been assigned to both *Chaenomeles* (*Chaenomeles sinensis*) and *Cydonia* (*Cydonia sinensis*). Chinese quince has attractive single pink flowers that appear earlier than those of *Cydonia* but not as early as most *Chaenomeles*. The fruit is a large, oval, aromatic yellow pome that ripens in the fall. The shiny, leathery leaves develop nice red-orange fall color. But its most interesting characteristic is the exfoliating bark that reveals brown, green, orange, and gray patches. Chinese quince's attractive bark rivals that of many *stewartias*. The trunk often becomes fluted with age, adding even more textural appeal. Luther Burbank devoted some attention to the Asian quinces and was probably responsible for a large-fruited clone of *Pseudocydonia*. Michael Dirr (1997) notes that Chinese quince is reliably hardy in USDA Zones 6 to 7 and possibly hardy in Zone 5. Fire blight is said to seriously impact its cultivation. However, the presence of very nice specimens of Chinese quince at the National Arboretum in Washington, D.C., and in gardens in the Carolinas—locations where *Cydonia* is readily killed by fire blight—indicate that it can be grown even in regions where the disease is present.

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Recipes:

Apple Avocado Salsa with Honey-Lime Dressing

Salsa Ingredients

2 firm tomatoes, diced
1 avocado, halved, seeded, peeled and diced
¼ cup diced red onion
1 poblano chile, seeded, diced
2 small Granny Smith Apples, cored and diced
1 tablespoon fresh parsley
freshly ground black pepper

Honey-Lime Dressing

2 limes, juiced
2 tablespoons honey

Combine Salsa ingredients. Add Honey-Lime Dressing and refrigerate for 15 minutes.

* * * * *

Chef John's Cherry Clafouti

Ingredients:

½ tsp butter
½ cup flour
2/3 cup sugar, divided
1 ¼ cups milk
3 eggs
1 Tbs. vanilla
1 pinch salt
12 ounces fresh cherries, stems removed
Preheat oven to 350 degrees. Butter 2 quart baking dish.

Combine flour, sugar, eggs, milk, vanilla, salt, and ladle about half the custard into baking dish. Bake 12 minutes.

Remove from oven and distribute cherries evenly on top of the set custard. Sprinkle with 1/3 cup sugar. Ladle in rest of custard. Bake until puffed and browned, about 45 minutes. Cool to just warm and serve warm.

* * * * *



Van Well Nursery 70 years providing fruit trees

Fruit Grower News, Dec. 2016, Gary Pullano, assoc. editor
Van Well Nursery has come a long way since 1946, to become a top supplier of fruit trees to commercial orchardists, wholesale and retail nurseries and the average backyard gardener. The Wenatchee, Washington-based operation now grows more than 1 million apple, pear, cherry, peach, plum, prune, apricot, nectarine and nut trees each year.

“We’ve been around for a little while,” Pete Van Well II said, as Van Well Nursery marked its 70th anniversary in 2016. “My grandfather, father and uncles did all the hard work,” said Pete II, who works inside sales, coordinates the work of sales agents and managed the company’s advertising and marketing programs. “We’re now in the third generation, with the second generation still here to guide us.”

Peter Van Well Sr. was optimistic about the future following World War II. He had two sons returning from military service who very shortly would be entering the work force in the Wenatchee area. He wanted a business of his own. One he could develop and, in time, turn over to his sons. For nearly 30 years, Van Well had been nursery superintendent for C&O Nursery in Wenatchee, and had established an enviable reputation in that trade.

Pete Sr. bought an old mule and 10 acres of open land in East Wenatchee. With the help of sons Jack and Joe, Pete set out some apple grafts. A year later, the trio was making peach and pear grafts, and was ready to deliver 23,000 finished fruit trees to commercial orchardists in the area – giving birth to Van Well Nursery.

The years progressed and the firm grew. Pete, the president, was joined by three additional sons, Pete Jr., Tom and Dick. Pete Sr. died in 1973, and Jack and Joe have passed, too. Tom retired, but Pete Jr. and Dick remain involved in the company. The third generation of the Van Well family is now firmly entrenched. Suzanne Van Well is Canadian subsidiary manager, Chris Van Well is scion wood selection, inventory and shipping manager, Joe Adams is in charge of the company’s inventory and information systems, Ric Van Well handles orchard and nursery production operations, and Pete Van Well II is the company’s business, sales and marketing manager.

The company operates 120 acres of orchard and about 700 acres of nursery stock in three different Columbia Basin areas: Wenatchee, Quincy and Moses Lake. Its corporate headquarters are in East Wenatchee, where it also has storage capacity for over 1 million fruit trees.

A variety producer

Over the past 70 years, Van Well Nursery has been responsible for the testing, propagation, patenting, introduction and marketing of many notable fruit tree varieties, particularly, early on, Red Delicious sports such as Red King, Oregon Spur, Scarlet Spur, Super Chief and Adams Apple.

As the fruit industry turned away from Red Delicious, Van Well sought out other exclusive apple varieties such as Auvil Early Fuji, Gale Gala, Red Jonaprince, Redfield Red Braeburn and Red Cameo. The list of new apple, cherry,

pear, peach and apricot varieties continues to grow, as the company seeks to identify, produce and market the needs of the next generation of commercial orchardists.

“Over the years we have grown,” Pete II said. “We started in Wenatchee, went down to Yakima, and my uncle started in the 1950s in Idaho. In the late ’70s we were in Michigan, and now we’re pretty much going to everywhere in North America, including Van Well Nursery Ltd. in Canada.”

The company “sold more peach trees than anything else” in the 1950s. Throughout the 1960s and 1970s, the company was based in downtown Wenatchee, where it had a full-service garden center. A 1960s catalogue featured roses, asparagus starts, berries, nuts and grapes. “Over the years we really intensified in the fruit business, and in the last 25 to 30 years it’s been strictly fruit trees,” Pete II said.

Apples have become the dominant tree product. “We have about 100,000 more apple trees than we do everything else altogether. We do peaches, plums and apricots – not too many others do harder stone fruit.” Pete II said Van Well is in the same boat as other nurseries that are challenged to supply enough trees to growers. “With stone fruit, it’s hard to get trees and it’s hard to satisfy so many different varieties – being that they’re second only to apples with the number of varieties cultivated. We can’t grow every single one. Trying to meet the needs is very difficult.”

“Of people in Washington, we probably have the largest variety selection. The market is going to more of the bigger growers with apples on high-density rootstock. High value takes up so much of the rootstock we have. Land availability is a big concern.”

Van Well conducts a lot of business through contracting, “but we also grow for specialization to cater to big, large guys and also smaller and medium-sized guys. We kind of have that older model in our company. It works really well.”

He said Van Well “appreciates the bigger growers. We also appreciate having the growers that aren’t quite so big for roadside people and farmers’ markets. The diversification has really kept our sales stable over the years.”

The biggest success has been seen in sports of established varieties, Pete II said. “We’ve introduced some unique varieties, which primarily have been sports. It’s knowing your customer and having them trust you. If we find a sport, find an improvement, we bring it to them. I credit Uncle Pete for building that trust, and Pete to this day still does a lot of our evaluation on all of the fruit.”

Building trust

Pete II said working closely with growers is a top consideration when pursuing new variety development. “You need to get growers’ trust if they bring you their variety. In case of Cameo (an apple cultivar discovered by the Caudle family in a Washington, orchard in 1987), it was a new variety a grower brought to us. We’re building trust with people across the world. We work with breeding programs and other nurseries. Pete really has done a lot of good for the company, delving into relationships that led to Scarlet Spur and Gale Gala, for example.

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We try to treat each other pretty fairly,” he said. “Variety testing can take 10 years. Testing agreements make sure the rights are maintained with the originator of the variety. When you get done testing, you work on getting the right of first refusal so they go with us. Pete has also written a lot of plant patents. We send out trees to different locations to see how they do in maybe Michigan or North Carolina. Varieties, especially apples, are regional in nature. Some things work really well.” While “not as big in club varieties as some of our competitors,” Pete II said Van Well is working with a number of managed varieties coming up through the North American International New Varieties Network. “Even if they have a managed variety and are a big outfit that grows a lot of their own trees, they still need replacement trees on blocks of conventional plantings and they still need pollinators,” Pete II said. “That’s changed the landscape a little bit.”

Labor is the nursery industry’s biggest concern

Pete Van Well II sees the fruit production industry’s consolidation and vertical integration as impacting the nursery business, including Van Well Nursery, but not as much as labor concerns will drive decision-making going forward.

“There is more vertical integration,” he said. “With consolidation and vertical integration, there are going to be fewer and fewer people in the fruit industry.”

“The availability of land is a concern,” Pete II said. “We try to raise stock on new ground every year. With our own property down in the basin, we try to do land swaps to get new sites.”

He said the biggest concern is labor. Washington state voted Nov. 8 to raise the state’s minimum wage to \$13.50 an hour by 2020. “It’s hard to imagine, at \$13.50 an hour, workers will be out and crawling up and down nursery rows when they can make it at McDonald’s,” Pete II said. “We’ll be paying more.”

Pete II said “every bud on every tree we grow has to be set and tied by hand. It has to be hand-cut back. We can’t use herbicides that will affect trees. All the weeds need to be pulled or hoed. There are a lot of hands on the trees before it goes to the grower.

Being labor-intensive is our biggest challenge.” He said more efforts will be made to take advantage of the cyclical nature of nursery work, including working with people in the apple industry who they could partner with to share workers. “We’re doing bedding about the same time apples get picked,” Pete II said. “When they’re picking, we’re digging trees. Right now, we seem to be getting enough labor.”

Many larger growers are operating their own tree nurseries, Pete II said, but “there’s a place for nurseries, too. If you have one variety in particular and need a lot of trees, it works out really great for them if they can produce and utilize their labor.” “If there’s only a handful of growers in the country and they start all growing their own apples, we have to figure out what we’re going to do and be part of it. It’s kind of an evolution of the industry. It kind of makes sense, especially with the small number of variety and rootstock combinations that they’re dedicated to. They will always need replacement trees, pollinators, standard stuff.”

Growing Figs in the Pacific Northwest

Though figs are of Mediterranean origin, they thrive and fruit well in the Pacific Northwest. They produce small embryonic fruit each year in late summer that over winters and ripens the following summer. They are self fertile. There are a few tips that can make a fig a successful addition to the fruit garden.

Site Selection—Figs will do best if planted in a warm site. Though they can be grown in the open, planting them against a south or west wall can increase ripening success in cooler summers. They prefer a well-drained, sandy soil. If the soil is especially heavy, consider building a raised bed or mound for planting. Sandy soil and raised beds warm earlier in the summer, increasing the growing season. Figs are somewhat drought tolerant. Figs can also be grown in large containers, which can be over wintered in a garage, shed, or greenhouse.

Winter Protection—The first few years in the ground, protect the trunk of the fig by wrapping pipe insulation around it in the winter, after the leaves drop. Once the fig is well established, it can resprout from its roots if severely damaged by an especially hard winter. Container grown figs should be moved into a protected location for the winter, such as an unheated garden shed or garage. If left outside, the pot should be wrapped with insulation.

Pruning—Figs can be grown as a single trunk tree, or as a multistemmed bush. Pruning is done in two phases. In early spring, before the tree breaks dormancy, remove any winter damaged wood, thin out weak shoots, and, on older trees, remove older, non-productive wood to the ground. The goal of this pruning is to keep the fig open to light and air circulation, and to stimulate new productive wood. The second pruning is done in mid-summer, and consists of pinching the new growing tips once they have extended 4-6 leaves. New side shoots will grow from these leaf axils, which will then produce embryonic figs in their leaf axils that will remain small enough to over winter and ripen the following summer.

Figs usually ripen over a several week period in August in the Pacific Northwest.

Preferred varieties: Desert King, Brown Turkey, Lattarula, Neveralla, Peter's Honey (or Italian Honey) are early varieties that will ripen reliably.

Cloud Mountain Farm Center, 6906 Goodwin Rd., Everson WA 98247 (360) 966-5850 voice (360)966-0921 fax
www.cloudmountainfarm.com



China's Effect on World Cherry Production

By Gregory Lang | *Growing Produce*/May 30, 2018

In 2017, I was invited to give the plenary address at the eighth ISHS (International Society for Horticultural Science) Cherry Symposium in Yamagata, Japan. I presented world cherry production, using data from the 2016 *World Sweet Cherry Review* by Des O'Rourke. This entailed charting worldwide production trends since the fourth ISHS Cherry Symposium, held in Oregon and Washington (2001), a time that coincided with the commercial availability of the Gisela series of precocious, vigor-controlling rootstocks becoming more widespread in North America and Europe.

During those 16 years between Symposia, world sweet cherry production has increased by 52%. In 2001, Turkey was the leading producer and was still No. 1 in 2016. The No. 2 producer had been Iran, but production declined during that time by 9%, bumping Iran to No. 4 worldwide in 2016. The U.S. was the No. 3 in 2001, but has increased production by 72%, taking over the No. 2 worldwide position for the past 10 years. The fourth and fifth highest-producing countries, Italy and Spain, increased by 16% and decreased by 12%, respectively, falling to No. 6 and No. 7.

The biggest worldwide production changes since the turn of the century, though, were closely related to each other. Chile, which was a very minor producer in 2001, increased production by an amazing 363% by 2016, becoming the fifth-largest producing country. Furthermore, Chile surpassed the U.S. in 2015 for No. 1 in sweet cherry export volume and value, and actually doubled *that* export production figure by 2017-18.

China Makes Its Mark

The primary market destination(s) for this massive quantity of exported Chilean fruit? One country — China. This past year, Chile provided 82% of the sweet cherries imported into China for their rapidly growing middle class; this was 86% of Chile's cherry production!

On a similar trajectory is China's domestic sweet cherry production. Though accurate production figures have been difficult to verify, China was a minor producer at the turn of the century. However, by 2016, the available production figures showed an increase of 1,848%, moving China into No. 3 on the worldwide production list. At the Symposium in Japan, one of the leading Chinese cherry scientists told me that my data significantly underestimated production.

Chinese cherry production could, in fact, be as much as three times higher than what I listed. Consequently, this past March, I was invited to give the keynote address at China's national cherry conference in Dalian. Indeed, I saw figures presented there that indicated China's production may be only slightly less than that of Turkey and the U.S. *combined*.



Reflecting on this, my first visit to several of China's cherry producing areas was in 2010. A number of things struck me on that, and two subsequent, trips. Production was mainly with large trees, of old local varieties (such as 'Red Lantern'), in orchards of less than an acre, usually with no irrigation, minimal pruning, and training (when attempted at all) was often accomplished by tying large rocks to branches to pull them down to more horizontal orientations. Rural roads were rough, and postharvest technologies were almost non-existent, including refrigeration.

High Density Comes to China

There were also some newer, larger orchard operations, at high densities, with irrigation, and with more international varieties, like 'Brooks.' In fact, I was proudly shown a nursery with fields of 100,000 Gisela 5 rootstocks, as well as a nursery with "tens of thousands" of 'Tieton' trees (since I had named and released 'Tieton' in the late 1990s when I was at Washington State University).

The irony of showing me many acres of these two patented plant materials was lost on my hosts at the time. Certainly, that intensive nursery production has now found its way into many more new, more modern orchards. However, most orchards are still often more labor-intensive than precision-intensive.

A further irony occurred at the Japan symposium and the Dalian conference. I was told in Japan that 'Tieton' had become the No. 1 cherry variety for new orchards in China, and in Dalian, I was told that it was the No. 1 variety for greenhouse production. In the Dalian area, I saw hundreds of typical "half-hoop" Chinese greenhouses and learned there are more than 1,000 hectares (2,500 acres) of sweet cherries now being grown in greenhouses to fill the market gap between late southern hemisphere cherries and early northern hemisphere cherries. Indeed, during the third week of March, there were impressive displays of extremely large, ripe 'Tieton' fruits.

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China's affect on Cherry Production cont. from pg. 13

Most of those that I saw firsthand are produced with the growth regulator Cultar to limit vigor, along with extensive pinching and flower/fruit thinning by hand to achieve the very large fruits that bring very high prices.

In Chinese culture, sweet cherries are highly appreciated as gifts, being associated with good fortune, prosperity, respect, and affection for loved ones. This, of course, is in addition to simply being a wonderful, intensely-flavored eating experience — as enjoyed elsewhere in the world. It will be interesting to see how much this production continues to develop, and impact world sweet cherry markets and producers, between now and 2021, when the ninth ISHS Cherry Symposium will be held, of course, in China!



Cherry trees inside a Chinese half-greenhouse. (Photo: Greg Lang)

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Attention WCFS Members

Want to know instantly what's happening in the organization? Subscribe to the WCFS Forum. It's a benefit of membership. The Forum is private and closed to the public. It keeps us together and on top of what's happening in our chapters. Click on this link and follow the prompts:

<http://lists.ibiblio.org/mailman/listinfo/wcfs>

Judi Stewart, Forum Administrator

Chapter News

Tahoma

In April we had a great presentation on Small Fruits and Berries by member Bill Horn, Master Gardener. Bill is also our Puyallup State Fair coordinator and is looking for volunteers for the WCFS booth this September. Recently we investigated a proposal to partner with Pierce Conservation District on a joint funding project but were not in a position to participate at this time. Charles Polance, whom some of you know from his contributions to the Beeline, has moved to Oregon just walking distance from Home Orchard Society. A great advocate of growing figs, he is missed.

In May the owner of a great Pierce County orchard that we are fortunate to benefit from, Terry Tomlinson presented Pruning to Form: Shaping Your Fruit Trees.

Our June program was a demonstration of dehydrating equipment and techniques by Jennie Hautila. Jennie has a degree in Nutritional Science and Food Research from UW, MA in Teaching and working on Master Gardener Cert. A tasting of delicious dried fruit and veggies followed.

Our chapter is working hard planning a strong program of educational activities in our meetings and at local facilities, particularly Terry Tomlinson's orchard. We are also working some measures to improve our visibility such as ordering new hats and printing business cards for distribution at the Fair.

Paul Mallary, Pres.

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OOS

Due to a noise conflict with the 4H club meeting on the other side of the divider curtain in the Clallam County Council Chambers we are moving our monthly meetings from the 2nd Tuesday to the 2nd Wednesday. Same location.

Our June 13th meeting will feature a talk on the *Art of Cider and Fruit Wines* by Paul Götz. Harvest time is approaching and options as to what to do with all that stuff need to be considered.

We will have our annual summer picnic July 21.

Our August 8th meeting will be an *Orchard tour and Chip Grafting Demonstration* at the home of Jim and Carol House.

Our September 12th meeting will feature a talk on *Fall and Winter Berry Care* by Jeanette Stehr-Green, Clallam County master Gardener.

Paul Götz

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Chapter News

STFS

At our April meeting, Dave Pehling gave a presentation on "Edible Wild Plants." Also, Barb Burrill (of City Fruit) gave a presentation on the proper netting techniques for fruit plantings. The club also had a plant exchange.

In May David Montgomery (UW Geomorphologist) gave a presentation about the subject matter of his most recent book: 'Growing a Revolution.' We also had a plant exchange at this meeting. We have been happy with our plant exchanges.

Last Saturday, the club sponsored a "Field Day" (aka - "Work Party") at our demonstration orchard. We worked on the orchard floor, did a bit of pruning, thinned fruit, netted trees, and put footies on fruit.

We plan to have a summer pruning workshop next month, possibly in conjunction with an orchard tour.

On June 23rd, our club is sponsoring an Orchard tour. The locations on this tour are Lori Brakken's orchard, and Mark Lee's orchard. All WCFS members are invited. We will be having a pot luck at Lori's in the late morning/early afternoon, then will visit Mark's orchard. Mark gave a great presentation of his orchard & garden activities at our March grafting event, and is the administrator of our Facebook page. Lori's orchard needs no introduction - 200+ varieties of apples in several Belgian Fence configurations, etc.

STFS member Kiwibob Glanzman has been doing a few consultations for homeowners about Kiwi cultivation (& control). the club received a few donations because of this. Kiwibob is in the process of scheduling a summer kiwi pruning workshop.

Mike Ewanciw

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VIFC

May Program speaker was Stephen Buffington of Dragon's Head Cider who manages the 4000+ apples in their orchard—mostly French and English cider apples.

Formal programs adjourned during the summer.

In June we'll celebrate summer with a members only **Strawberry Social** hosted each year by one of our members at the co-housing Commons. All the strawberry shortcake you can eat.

On the 30th **Orchard Tours** of member orchards to discuss what is and isn't working

July 21-22 Club booth at **Strawberry Festival**. We also provide Parade Marshalls to help offset the cost of the booth space (\$205)

July 28 **Summer Pruning** hands-on and chip budding demo at members orchard

VIFC cont.

August 5th is the **Annual Salmon BBQ** and pot luck at Sunrise Ridge outside the club orchard, with kid's games, and homemade products made of fruit vying for the judges' prizes. This free event for members draws the largest crowd for the year—usually over 100.

The 26th with host a second hands-on **Summer Pruning** Event.

In September formal Meetings resume and planning for Ciderfest Oct. 6th.

The Club is now renting space to store all of our inventory. We also purchased additional inventory from a former member who is moving and wanted to offer it to the club before putting it out to the public. Membership is stable—slightly lower than last year which was an all time high of over 200.

Charon Scott-Goldman

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NOFC

In June, Al Cairns from the Jefferson County Conservation District spoke to the club about ongoing programs of the Conservation District. He presented some ideas about possible collaboration between the district and the fruit club to plant riparian buffers with fruit trees on local farms. The club will again have a booth at the Jefferson County Fair, August 10-12. In addition, the annual picnic will be in August.

In October, the NOFC will have an information booth at the World Apple Day celebration at Finnriver Farm. Janeann Twelker

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SSFS

Our June 5th meeting was a presentation by Bill Horn on the upcoming Washington State Fair. He also talked about old orchards in his area and apple pests.

We are planning a pruning workshop for July.

On Sept 4th, Jean Williams is coming down to talk about Apple ID.

We have presentations on Food Preservation, Apple Cider, and Maple Syrup coming up.

We continue to work on our web site and are thankful to Rebekah Jackson for all her help.

Brian Williams, Vice Pres

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Chapter News cont.

PFC

In May we had a video on Anthracnose, with Jean Williams fielding questions. The June 14th Meeting will be a Video on tall Spindle orchard systems. We do not have a subject/speaker yet for the July or August meetings. We have also included a dedicated time slot for question and answers in all future meetings.

We will be manning an information booth during the Kitsap County Fair 22-26 August.

Cliff Reinke

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BIFC

We had Kiwibob at our last meeting May. We also did a mini-plant sale and pot luck. We are planning several garden tours in June/July/August. The August meeting will be at my house and will include bud grafting. September will be back to formal meetings at the BI Grange, with Lori Brakken doing a presentation on apple identification. We may also have a mini-fruit show as well to coincide with Lori's talk. Also in September we will be at the Johnson Farm Harvest Fair...with our education/fruit tasting booth. October and November are still in works, but hope to have an apple cider pressing event.

On one side note, our club has been accepted into Bainbridge Island One Call for All (community fund raising event for non-profit organizations) for next year. Ben (our Treasurer) has been spearheading this effort. From what I understand, we will need to raise at least \$2,000/annually within the next 2 years (in donations) from at least 20 folks...to stay in the program. So wish us luck...this has the potential to give our club a significant funding boost.

Darren Murphy

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WCFS OFFICERS AND BOARD MEMBERS

President	Ron Weston ronweston09@comcast.net
Vice President	Darren Murphy GardendadBI@gmail.com
Secretary	Carlyn Syvanen syvanenx@teleport.com
Treasurer	Jerry Gehrke bercogehrke@comcast.net

Directors

2019	Jackie Furrey Jackie_furrey1@yahoo.com Rebekah Jackson bekietravel@gmail.com Heide Madden heide.madden@gmail.com
2020	Bill Horn hornbill66@msn.com Patti Gotz plsgotz@gmail.com
2021	Steve Vause Svause@teleport.com Elizabeth Vogt eavogt@comcast.net

Chapter Presidents

Bainbridge Island	Darren Murphy GardendadBi@gmail.com
Olympic Orchard	Paul Götz paul.gotz6@gmail.com
North Olympic	Janeann Twelker janeann.twelker@gmail.com
Peninsula	Cliff Reinke onareinke@hotmail.com
Seattle Tree Fruit	Mike Ewanciw mikewan@aol.com
Snohomish County	Christopher Pence cpence@gmail.com
South Sound	Brian Williams, Acting Pres. bkwill@well.com
Tahoma	Paul Mallary paulmallary@gmail.com
Vashon Island	Charon Scott-Goldman Charon@centurytel.net

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Links

Here is a list of sites on the web that may be of interest to you.

Related Organizations

- Backyard Fruit Growers
www.sas.upenn.edu/~dailey/byfg.html
- California Rare Fruit Growers
www.crfg.org
- East of England Apples and Orchards Project
www.applesandorchards.org.uk
- Indiana Nut Growers Association
www.nutgrowers.org
- Midwest Fruit Explorers
www.midfex.org
- North American Fruit Explorers
www.nafex.org
- Northern Nut Growers Association
www.northernnutgrowers.org
- Oregon Sustainable Agriculture Land Trust
www.osalt.org
- Western Cascade Fruit Society
www.wcfs.org
- Western Washington Fruit Research Foundation
www.wwfrf.org
- Home Orchard Society
www.homeorchardsociety.org/
- Seattle Tree Fruit Society
www.seattletreefruitsociety.com/
- Seattle Tree Fruit Society—Apple ID program
www.seattletreefruitsociety.com/appleid.php

Fruit Research

- National Clonal Germplasm Repository
www.ars-grin.gov/cor
- Tree Fruit Research and Extension Center, Washington State.
www.tfrec.wsu.edu
- Northwest Berry and Grape Infonet.
berrygrape.oregonstate.edu
- Pedigree: A Genetic Resource Inventory System
www.pgris.com
- Oregon Department of Agriculture
www.oda.state.or.us

Government Sites

- US Dept. of Agriculture
www.usda.gov
- USDA Agricultural Research Service
www.ars.usda.gov

Helpful Sites

- Orange Pippin
www.orangepippin.com
- Kiyokawa Family Orchards
www.mthoodfruit.com
- Red Pig Tools
www.redpigtools.com
- Friends of Trees
www.friendsoftrees.org
- Cornell Gardening Resources
www.gardening.cornell.edu
http://www.fruit.cornell.edu/tree_fruit/GPGeneral.html
- The National Arbor Day Foundation
www.arborday.org
- UBC Botanical Garden
www.ubcbotanicalgarden.org
- The Reckless Gardener
www.recklessgardener.co.uk
- Farm & Garden
www.farm-garden.com
- SeeMeGarden.com
www.seemegarden.com
- GardenGuides.com
www.gardenguides.com
- VitiSearch: Helpful Resources about Grapes
www.vitisearch.com
- Avant-Gardening: Creative Organic Gardening
www.avant-gardening.com
- The Hardy Plant Society of Oregon
www.hardyplantsociety.org
- Ask the Berry Man
www.asktheberryman.com
- BackyardGardener.com
www.backyardgardener.com
- Tom Brown's website
www.applesearch.org

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