



The Fruit Leaf



Santa Clara Valley Chapter

California Rare Fruit Growers, Inc.

March/April
2008

<http://www.crfg.org>

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Membership

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Next Meeting

Saturday, April 12, 2008
Emma Prusch Park
Social and set-up 12:30
Meeting 1pm to 4pm



Lisa Bennett Sustainable Gardening

Lisa Bennett has been a member of the SCV-CRFG group for the past six or more years, a member of the Hybridizers Group for the past three years, and is a Master Gardener. Her home is in Sunnyvale, but her heart is on her 10-acre parcel in Aptos. Lisa will share descriptions of the native flora and pesky fauna in the Santa Cruz Mountains micro climate (at 1600 feet elevation), which includes fruit, nuts, greens, and fungi. She will also describe the effort she has put into establishing a rare fruit orchard and vineyard in her 10-acre parcel there over the past 10 years.

2008 Meeting Schedule

June 15 August 9 October 11 December 6

The June meeting will be on Sunday

Green Scion Exchange April 12

It is up to each individual member to make the April Green Scion Exchange a success! What is a green scion? Well, it is material from plants that do not go dormant in the winter. This includes plants such as citrus, avocado, guava, fejoa (pineapple guava), sapote, loquat, Surinam cherry, passion fruit, cherimoya, etc.

Generally you will select cutting wood that is around one year old. On citrus, this would be the twigs that are not angular but round, still young and vigorous with buds in leaf axis that haven't yet pushed. Clip off leaves being careful to leave a leaf petiole so there will be a handle on the bud; don't tear off the leaves. You can T-bud, chip bud or graft evergreen scions. Place the scions in a Ziploc bag sprinkled with a little water to keep them moist. Label the bags with a permanent marker as to species, variety, and source.

Currants and Gooseberries - *Ribes* spp.

Mark Rieger, Professor of Horticulture at the University of Georgia

Taxonomy, cultivars

The genus *Ribes* contains about 150 species, notably the red and white currants (*R. sativum* Syme, *R. rubrum* L.), the black currant (*R. nigrum* L.), and the gooseberry (*R. grossularia* L.). Traditionally this genus is placed in the Saxifragaceae, along with many ornamentals such as saxifrage, mock orange (*Philadelphus*), coral bells (*Heuchera*), hydrangea, and astilbe. In the 1980's, taxonomists broke-out *Ribes* from the Saxifrage family and placed it into its own family, the Grossulariaceae, consisting of a single genus divided into 7 subgenera. Some taxonomists give the gooseberries their own genus (*Grossularia*), but since gooseberries and black currants have been hybridized to produce 'Jostaberry', a thornless gooseberry-like fruit, it seems a bit ridiculous to split *Ribes* into 2 genera (and even to create a separate family for it!). Gooseberries from North America are *R. hirtellum* and its hybrids; those from Europe are *R. grossularia*.

Cultivars

Red currants: 'Jonkheer van Tets' (Holland), 'Earliest of Fourlands', 'Laxton's No. 1' (England), 'Perfection', 'Wilder', 'Red Cross'.

White currants: 'Werdavia', 'Zitavia', 'Meridian', 'Victoria', 'White imperial', 'White Grape'

Black currants: 'Baldwin', 'Blackdown' 'Ferdoti 1', 'Noir de Bourgogne' (for brandy in France). 'Topsy', 'Kerry', 'Magness', 'Consort'

Gooseberries: several thousand named cultivars; 3004 red, 675 yellow, 925 green, 280 white. Only green, white and yellow fruit are used for processing. 'Careless', 'leveller', 'Invicta'.

Origin, history of cultivation

The genus *Ribes* is native to the high latitudes of the northern hemisphere. Europe, Asia, and North America all have native species. Most commercial production is concentrated in Europe and the USSR, and most cultivars have been derived from species native to these areas. Currant cultivation has been practiced at least since the 1500's in Europe, and the late 1700's in N. America when the first colonists arrived. Gooseberry production began around 1700 in Europe. Virtually all production exists in Europe and the USSR today. Disease and adaptation problems have restricted production in North

America, as well as a federal ban on cultivation of *Ribes* spp. imposed in the early 1900's, since they serve as an alternate host for white pine blister rust - white pine was a major timber species at that time. The federal ban was rescinded in 1966, but many states in the US still prohibit cultivation of Black Currant.

The name "Currant" probably arose as a corruption of "Corinth", the Greek city which shipped small raisins called currants (which were actually dried grapes) throughout Europe. Since red and black currants are about the same size as these raisins, the name stuck although a misnomer. The term "gooseberry" is probably an evolution of the German "Jansbeere", meaning "John's berry" because its ripening period coincided with the Feast of Saint John. Alternatively, the French word for currant "Groseille" which derives from the Latin epithet for the species, may have been mispronounced/mispelled to yield "gooseberry".

Botanical description

Plant: Low-growing bushes with erect stems, which are thorny in gooseberry but not currants. Gooseberries attain heights of 2-5 ft, red currants 3-5 ft, and black currants the most vigorous, at 5 ft. Renewal canes come from the crown or beneath the soil, and fruit for about 3 years. Planting longevity is generally 15-30 yr, being less for black currant than red currant or gooseberry. Leaves of currants are 3-5 lobed, somewhat acute tips, dentate margins, petioled; in gooseberries, leaves are smaller with shorter petioles, 3-5 lobed with obtuse tips and crenate-dentate margins.

Flowers:

Flowers come from terminal mixed buds in red currant and gooseberry, which appear as lateral buds on 1 yr wood, because the vegetative axis is greatly reduced. For practical purposes, the bearing habit can be considered lateral on 1 yr wood. Inflorescences contain 1-3 flowers in gooseberry, and 8-30 flowers in currants. Inflorescences are racemes, commonly referred to as "strigs". Ovaries are inferior.

Pollination: All currants except black and gooseberries are self-fertile, and are grown without pollinizers mostly. However, the degree of self-fertility is influenced by climate, and 1-2% of the planting should contain pollinizing cultivars. Black currants are mostly self-incompatible, but will produce some fruit if self-pollinated, sometimes by stimulative parthenocarpy.

Fruit: In all cases, an epigynous berry, since ovaries are inferior. The fruit is usually glabrous and crowned with calyx remnants. Pronounced striations appear like "lines of longitude" in surfaces of young fruit, especially gooseberry.

General Culture

Soils: Loamy soils with good drainage, pH 6.2 to 6.5, 1% organic matter, and at least 1.5 to 2 ft deep are recommended. Roots only extend 8-16 inches, so particularly deep soils are not necessary.

Climate: Because of their extreme cold hardiness, long chilling requirements, short maturation period, and intolerance of summer heat, *Ribes* spp are well-adapted to northern areas, and are often grown where severe winter cold precludes tree fruit production (into northern Sweden!). Since bushes are small, snow often protects them from winter injury in the extreme north. Plants require only 120-140 frost-free days to mature fruit and complete their vegetative period. Fruit ripen in 90 days, and are harvested in July in northern Europe. Sites with a cooler microclimate, such as a northern exposure are best since heat injury can be a problem.

Unlike other fruit crops, *Ribes* are shade tolerant, but will produce more in full sun. Afternoon shade may be used to avoid heat stress in warm areas. Irrigation is beneficial to production, due to shallow rooting. However, water requirement is relatively low, 1 inch per week. Chilling = 800-1600 hrs.

Propagation: Hardwood cuttings are used for currants and American gooseberries (*R. hirtellum*). Serpentine, trench, or mound layerage is used for European-type gooseberries, since they do not root well from hardwood cuttings.

“Tree gooseberries” are produced in Hungary by “green grafting”, essentially a whip graft made during the growing season. These plants have single trunks to 12-18 inches. The benefits are: less powdery mildew incidence, less frost damage, higher yield, and adaptability to over-the-row harvesters.

Rootstocks: *Ribes aureum* is the stock used for tree forms; clones ‘Brecht’ and ‘Pallagi 2’ have vigorous growth and reduced suckering. Rootstocks are produced (and grafted) in stool beds.

Orchard design, pruning, training: *Ribes* spp can be grown as free-standing bushes, hedgerows, or tree-forms; hedges and tree-form hedges are most common in commercial plantings. Planting distances are: Red currants and gooseberries - 3-4 ft x 8-9 ft. Black currants - 4-5 ft x 10-12 ft for hand harvest. 2-3 ft x 10-12 ft for mechanical harvest.

General: Black currants fruit mostly on 1-yr wood, so canes with a lot of strong 1-yr growth are maintained, while older weaker canes are removed. Conversely, red currants and gooseberries fruit mostly on spurs on 2-3 yr shoots, so many 1-yr canes are removed, canes 3 yr

are removed, and a balance between 1 yr and 2-3 yr shoots is maintained.

Contribution to diet, food uses

Ribes fruit are marketed almost entirely as either frozen, juice, jam or jelly. In France, a brandy is made from the black currant cultivar ‘Noir de Bourgogne’. Black currants are also used in many desserts, such as pies, while red currants are mostly made into jelly/jam. Gooseberries are made into jams, pies and dessert items. Fresh fruit are usually processed by consumers into various dessert items.

Both currants and gooseberries add color and flavor to dishes, generally having a tart “acid punch”. They are versatile in use, ranging from sweet or sour sauces, flavor heighteners (like lemon), to various pies, jellies, jams, and wines. Dessert puddings are popular in Europe. Gooseberries can be used for meat accompaniments or in fowl stuffing.

Dietary value, per 100 gram edible portion:

Water (%)	84-89
Calories	39-54
Protein (%)	0.8-1.7
Fat (%)	0.1
Carbohydrates (%)	10-13
Crude Fiber (%)	1.9-4.0

% of US RDA*

Vitamin A	2-6
Thiamin, B1	3-4
Riboflavin, B2	3
Niacin	0.5-2.0
Vitamic C	73-444 #
Calcium	2.5-7.5
Phosphorus	2-5
Iron	5-11
Sodium	---
Potassium	3-8

* Percent of recommended daily allowance set by FDA, assuming a 154 lb male adult, 2700 calories per day.

Black currants have the highest vitamin C content of all temperate fruits (444% of RDA!), with only Barbados cherry and rose hips having higher levels. Red currants and gooseberries have 73-95% of the daily allowance, which is very high as well. Black currants also contain bioflavonoids which are vasopressor agents (reduce blood pressure).

The above information gleaned from Mark Rieger great Fruit Crops site located at: <http://www.uga.edu/fruit/index.html>

Considerations

for in Season

Nutrition of Prunes

*Bill Krueger, UCCE Farm Advisor,
Glenn County*



Prune trees will not respond to fertilizer if they are not deficient in the particular element at the time of application. In this area, prune trees commonly need nitrogen (N), potassium (K) and zinc (Zn). Boron (B) may be deficient at certain times of the year in specific locations. A July leaf analysis is helpful for identifying nutrient deficiencies.

N application will normally be required every year in every location. A July leaf level of 2.3 % or above is considered adequate while over 3.0% is excessive. As a general rule trees will utilize less than 50% of applied N. Losses can occur through volatilization, leaching and denitrification. N uptake relies on actively transpiring leaves and is most efficient during the period of rapid shoot growth. Multiple applications during the growing season help reduce risks to losses such as volatilization or leaching. Applying N through low volume irrigation systems can improve efficiency compared to broadcasting or banding. N requirements are increased with larger crops. As a general rule, about 100 lbs. per acre per year of actual N is required for heavy production.

Ensuring adequate K is critical to producing large crops of high quality fruit since demand for K increases dramatically with larger crops. K deficiency results in smaller fruit, reduced drying ratio, and (in more severe cases) defoliation and limb dieback. K deficiency is generally corrected by fall or dormant applications to the soil. In season K management is generally limited to foliar sprays or fertigation for low volume irrigated orchards. Foliar application of potassium nitrate (KNO₃) can be used to correct deficiency in season or prevent deficiency under heavy crop loads. Four sprays of 20 to 30 lbs. per acre of KNO₃ are required to fully meet seasonal K requirements. Fertigation is efficient at getting K into the root zone of low volume irrigated trees and can give same season correction of deficiency. Rates of 250 to 500 lbs of potassium fertilizer per acre applied multiple times throughout the season through the low volume irrigation system is usually sufficient. Be careful if you use potassium chloride (a cheaper form of K). and check chloride levels in the July leaf analysis to monitor for chloride accumulation.

Concerns related to the potential for rapid development of K deficiency in heavy cropped trees and observa-

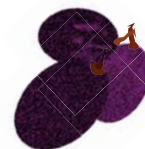
tions of higher K levels in productive orchards have led to questions about the adequacy of UC critical levels. Research conducted in 1996 in a single orchard found leaf levels higher than 1.3% did not correlate with higher yields or fruit quality. Results from survey sampling in 1998 and 1999 indicated no benefit from additional K application when leaf levels were greater than 2.0 %.

Unfortunately, July leaf samples offer limited opportunity for adjusting fertilizer practices for that year. Research conducted under the Integrated Prune Farming Practices project in 2002 and 2003 evaluated early leaf sampling predictions but was unable to establish a significant correlation between N and K levels from May leaf samples and July samples. This is likely due to the influences of crop load, fertilizer application and residual N and K in the soil. Generally, orchards with May K levels above 2.3 % did not develop deficiency symptoms during that year. Orchards below 1.3 % in May with no K applied generally showed deficiency symptoms in July and August.

Zinc deficiency is common in California prune orchards. Check July leaf analysis for adequate levels of Zn (greater than 18ppm) and look for deficiency symptoms (delayed bud break, small leaves with interveinal chlorosis). Foliar sprays are the most common way to correct zinc deficiency. Fall sprays with zinc sulfate or spring sprays with other Zn materials are both effective.

Boron (B) deficiency is not common in Sacramento valley prune orchards. If B levels are marginal (below 25 ppm is considered deficient), bloom sprays may improve fruit set. Too much boron can actually reduce set. In UC research it has been difficult to show a benefit from boron sprays applied at bloom. One test showed a trend toward higher set but no significant differences between treatments. Other experiments have showed no benefit. If applied, boron is usually mixed at 1 to 2 lbs Solubor per 100 gallons and applied with a spray volume of 100 gpa no later than pink bud. Remember, higher rates can actually reduce set.

*For further information on Prunes
contact Bill Krueger, whk-krueger@ucdavis.edu or visit:
<http://ceglenn.ucdavis.edu>*



Common Ground

650 493-6072

559 College Avenue, Palo Alto, CA 94306.
Seniors and low-income persons may request a \$4 discount on classes.

DRIP IRRIGATION

Frank Niccoli, Saturday, April 26, 2008
2:00 - 4:00 \$27

COMPLETE-DIET MINI-FARMING

John Jeavons Saturday, April 19, 2008
10:30 - 12:30 \$27

BEST CITRUS FOR THE SAN FRANCISCO BAY AREA

Nancy Garrison, Saturday, April 26
10:30 -12:30 pm
Fee: \$27

Day on the Farm

Saturday May 17, 2008 10 AM – 3 PM
Agricultural History Project | 2601 East Lake Avenue | Watsonville
(831) 724-5898

Come out and try your hand at cutting wheat the old fashioned way. Enjoy the demonstrations of making candles and soap and goat cheese. Learn how to milk a cow with cows that don't kick. Enjoy the farm animals including lambs, rabbits, chickens, goats, a cow and working draft horses. This free event is designed to educate children and adults about how their food gets to the table and the many chores of every day life of the past. Light lunch fare will be available for purchase.

Yamagami's

(408) 252-3347

The Original Mulch Block
April 5 from 10am to 2pm

The man responsible for bringing it to our shores, Mike Emanuel, will be here to answer questions about the Original Mulch Block and to demonstrate how easy they are to use.

Hidden Villa

26870 Moody Road, Los Altos Hills 94022
(650) 949-8650

Non-Toxic Pest Control Workshop

Sunday, April 27, 9:00am to noon
Dana Center

Thomas Wittman, will give humane tools for control of gophers and moles. \$25.00

Healing Herbs

Sunday, May 18, 10 am to 1pm
Wolken Education Center \$15.00

Program begins w/hike to ID and collect plant materials for use in class.

Alden Lane's Nursery's Educational Opportunities

981 Alden Lane, Livermore
www.aldenlane.com (925) 447-0280

This year Alden Lane is introducing basic gardening classes and scheduling them on both Saturdays and Sundays so you can easily work a class into your month.

Classes will include about 30 minutes of instruction/demonstration and optional 20-30 minutes of question/answer time.

Sunday, April 13 at 1:00 pm or Saturday, April 19 at 10:00 am

Plant nutrition, what it takes to keep your plants looking vibrant, flowering well or fruiting well.

Sunday, April 27 at 1:00 pm or Saturday, May 3 at 10:00 am

Take the mystery out of watering. Avoid the most common problems for new gardeners. Find out what your plant really wants and learn valuable tips to read a plant's moisture needs.



Apple Scab

From University of California IPM Program

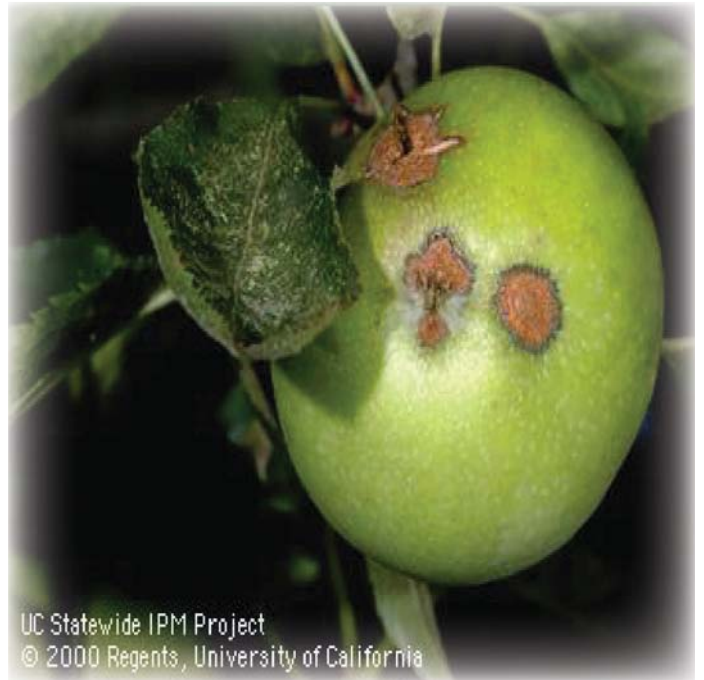
Apple scab, caused by the fungus *Venturia inaequalis*, is generally considered a serious disease of apples in California, causing loss or severe surface blemishing of fruit. Apple scab is most severe in coastal areas where spring and early summer weather is cool and moist; however, it can be a problem wherever apples are grown when conditions are favorable for its development.

IDENTIFICATION

Scab infections are usually noticed first on leaves. Affected leaves become twisted or puckered and have black, circular spots on their upper surface. On the undersurface of leaves, the spots are velvety and may coalesce to cover the whole leaf surface. Severely affected leaves may turn yellow and drop. Scab can also infect flower stems and cause flowers to drop. Later in the season, scabby spots may be found on fruit. They begin as sooty, gray-black (and sometimes greasy-looking) lesions and may have a red halo. The lesions later become sunken and tan and may have spores around their margins. Infected fruit become distorted and may crack, allowing entry of secondary organisms. Severely affected young fruit may drop.

LIFE CYCLE

The pathogen overwinters primarily in infected leaves on the ground. In spring, air currents or splashing water carry primary spores from infected leaves to flowers, leaves, or fruit where they germinate and cause infections. New spores, referred to as secondary spores, are produced on the infected leaf or fruit surface 8 to 17 days later, allowing further spread of the disease in the tree until conditions become too hot and 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 infection to occur. If spring weather is dry from the green tip stage of bloom through fruit set, scab will usually not be a problem.



DAMAGE

Scab can destroy an apple crop. Young infected flowers or fruit may drop or the fruit may become malformed and unsightly, rendering them unusable. Defoliation follows severe early leaf infection. Late-season infections, which cause small “pinpoint” infections, generally can be tolerated in backyard trees because peeling fruit removes the scabs, and fruit are less likely to be deformed.

MANAGEMENT

Several techniques may be used to control scab; advantages of one method over another depend on the number of apple trees being managed and whether conditions are ideal for disease development. In single backyard trees, removal of leaves from beneath trees in winter may be sufficient to limit the disease to tolerable levels. In plantings of several trees, additional steps may be needed to effectively control this disease, especially in cool, moist coastal areas.

Cultural Control

Rake and remove apple leaves from the yard in autumn or winter. Foliar applications of zinc and fertilizer-grade urea will hasten leaf fall in autumn. Either destroy or thoroughly compost the leaves. For sprinkler-irrigated trees, avoid wetting the foliage with water. If you are using sprinklers that wet any of the tree’s foliage, irrigate between

sunrise and noon to allow adequate drying before significant infection can occur.

Disease-resistant Cultivars

For a comprehensive list of Susceptibility of Apple Varieties to Apple Scab please visit the UC website: <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7413.html>.

Chemical Control

In most areas of California, apple bloom occurs over a 3- to 5-week period; sprays are only necessary if the weather is rainy. Successful use of fungicides requires careful attention to application timing. Preventing early infection is the most important step towards successful control of later fruit infections: once primary infections occur, it is difficult to prevent secondary fruit infections. Thus if rain threatens, it is important that a fungicide be applied just as soon as the tips of the green leaves can be seen. A second spray may be needed 10 to 14 days later, once the blossom cluster is visible but before it has opened. If rainy weather continues, apply a third spray toward the end of the bloom period when most of the petals have fallen.

As the season progresses, the surfaces of the fruit and foliage become more resistant to infec-

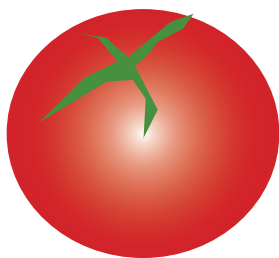
tion, but extended wet, foggy weather can bring enough wetness to cause an infection period from secondary spores that develop on leaves and fruit. If no scab infections are evident one month after petal fall, however, secondary infections will probably not be a problem.

Several fungicides are available for the control of apple scab. These include fixed copper, Bordeaux mixtures, sulfur, liquid lime sulfur, soaps, and summer oils. Copper or Bordeaux sprays are generally used only from green tip to full bloom to reduce the risk of fruit russetting, a chemical burning of the fruit skin. In some years, however, russetting may occur even when these materials are used only before full bloom. (For more information on Bordeaux mixture and copper sprays, see Pest Notes: Bordeaux Mixture, listed in "References.") When you use sulfur-containing compounds (Bordeaux, sulfur, liquid lime sulfur), they must not be applied within 3 weeks of an oil application or when temperatures are near or over 90°F. Use soaps or narrow range oil (superior or supreme) in a 1 to 2% solution with water.

To view the full article with more specific information and images of Apple Scab, visit the UC IPM website for Apple Scab at: <http://www.ipm.ucdavis.edu/PMG/V/D-AP-VINA-FR.007.html>

**UCCE Master Gardener's
Famous Spring Garden Market
Saturday, April 12
9:00 am - 2:00 pm
History Park
1650 Senter Road, San Jose**

**70 varieties of heirloom tomatoes,
90 varieties of sweet
and mild peppers,
plus more! Speakers
on the half hour,
always free advice...**



Gooseberry Source

*Whitman Farms
995 Gibson Rd NW
Salem, Oregon 97304
Telephone: 503-585-8728*

Lucile, of Whitman Farms, says these are the best for our area as American gooseberries have a tendency to mildew.

Micheal Eames, CRFG Santa Clara county also recommends the below gooseberries. Micheal says the European gooseberries are the best.

*Black Velvet, Orus 8, Hinomaki Red, Invicta
Micheal has been growing gooseberries and currants for many years. He says the American gooseberries have little flavor. So before you choose your gooseberry find out if it is American or European.*

BOARD OF DIRECTORS 2008

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