The Fruit Leaf

Santa Clara Valley Chapter

California Rare Fruit Growers, Inc.

November/December 2007

http:/www.crfg.org

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Membership
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San Jose CA 95129
Phone 408 996-3112
weedeater@earthlink.net

Next Meeting

December 8, 2007
Emma Prusch Park
Social and set-up 12:30
Meeting 1pm to 4pm

Speaker for December 8, 2007

Larry Huls of Larry Huls Design began his horticultural training seven years ago. He completed all the pruning classes and then apprenticed with Michael Alliger for a year. In the ensuing years, he completed the Advanced Design and Construction Certificate at Merritt. He received the 2002 Bronze medal at the San Francisco Flower and Garden Show as co-creator.

From 2002 to present he has been an Instructional Assistant in Pruning and Arboriculture classes and created a module on Ergonomics for Pruners that he will present to us. He is a California Licensed Landscape Contractor. With his design/build company which does full installations. He will speak to us about aesthetic pruning. You can thank CRFG member Elaine for suggesting him as a speaker.

We will also have member Lisa Bennett speak on the hybridization project that is part of our local CRFG chapter after our first speaker.

Our speaker for the chapter meeting on the second Saturday in February in 2008 will be Ed Laivo from Dave Wilson Nursery, who will give a high energy talk on what fruit varieties are really hot from Dave Wilson Nursery. Mark your calendar ahead for that one as Ed is one, of the most celebrated speakers around. Ed knows fruit varieties like the back of his hand as, he's been into fruit trees practically his whole life and stays on top of the new and interesting releases as they get developed.

2008 Meeting Schedule

February 9, Ed Lavio, Speaking on fruit varieties

April 12 June 14 August 9 October 11 December 6

The Practice of Grafting

Todd Kennedy

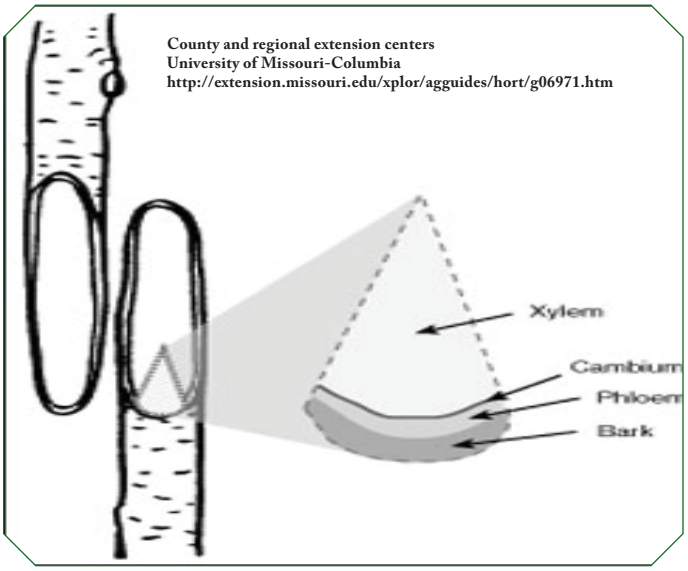
The practice of grafting is an ancient one. Theophrastus, the Greek plantsman credited as the founder of botany who died ca. 288 BC, described the joining of a root and branch, as distinguished from the rooting of cuttings, and catalogued the feasible combinations of fruit trees. It was he who demonstrated that not just any fruits could be joined with others, though some could be made to grow when grafted on unlike sorts of fruits as rootstocks. This is a difficult concept for our members even today, and this article concludes with a list of compatible fruit combinations.

A form of surgery, grafting is that part of horticulture that brings us closest to the realization that plants and animals are not so very unlike after all. The grafter works with living tissue, and works quickly, as plant parts perish in the same manner, and with nearly the same speed, as their animal counterparts.

A reasonable degree of precision is required. Although it is not necessary to match nerve with nerve, the grafter must match specialized tissue with its like. Foreign body rejection is likewise found among plants, and the rootstock's first response is to expel alien tissue and close the wound. Infection with fungi, bacteria and viruses are hazards also. Clean tools, hygienic surroundings and healthy scionwood are necessary for success.

Grafting is the joining of the lower portions of a plant (the "rootstock") with a substantial piece of plant (the "scion" pronounced "sigh-on") to grow as a new branch or a whole new tree on the rootstock. If the scion is insubstantial, typically merely a single bud to be inserted into the rootstock stem, the practice is called budding - never "bud grafting," which is nonsensical. Grafting may be done with dormant, deciduous fruit trees or with evergreen fruit trees, though a dormant scion with a dormant rootstock is what we teach in our Spring Event. Budding is invariably done with growing, fully leafed plants, typically in late spring or summer.

There are several methods used in grafting woody plants. Particularly noted are cleft, whip, whip and tongue, side, and crown grafting. Each has its particular purpose and is optimally utilized under particular circumstances. This article deals only with cleft grafting, which is most intuitively obvious for beginners and makes best use of the properties of the plant. We will emphasize stone fruits, which seem to be especially difficult for HOS members. The scion is inserted into the rootstock, and the rootstock clamps the scion in place until it grows. Cleft grafting is most successful with rootstocks established in the ground for only 1-2 years. Whip grafting is best applied to bareroot rootstocks, before planting out, typically in large numbers in production-line fashion. The scion and rootstock must be matched in diameter and in angle of cut, are bound together and the whole is then planted out in the field. This requires considerable skill and speed, and cannot be performed so late in the spring that the scion would be forced into immediate growth, before callusing can occur.



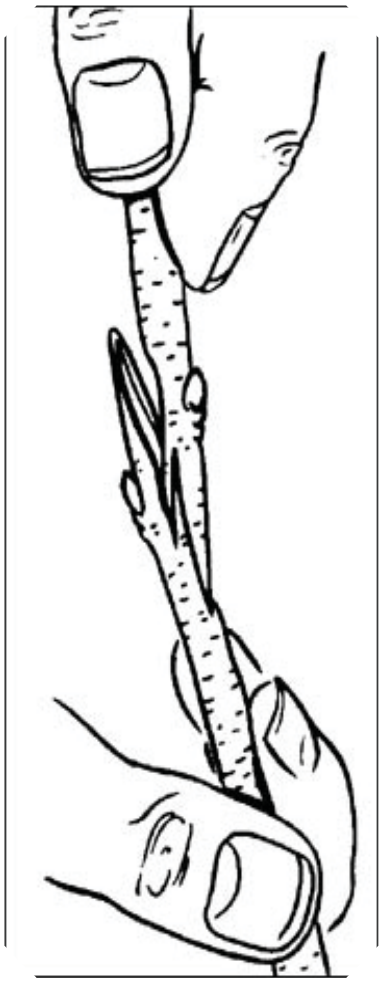
Whip-and-tongue grafting is an elaboration of whip grafting. The scion and rootstock are further split in the zone of union to form tongues, which are fitted together. This effectively doubles the zone of contact and therefore makes success more likely than in whip grafting; it is more time consuming and therefore used only for scionwood of dubious viability or fitness, usually of very small material. Side grafting"the insertion of a scion directly into the trunk at an oblique angle" is feasible only on rootstocks of mature size, with thick xylem and phloem layers, when the top of the tree is needed to nurse the young graft, or to produce a profitable crop during the season of grafting. This is only used with apples.

Crown grafting is used for the top working or conversion of an entire mature tree to another variety. The major branches are cut at considerable diameter, and multiple scions are inserted around the periphery of the cut. It is a superstition of many growers to leave one branch ungrafted to nurse the rest for the first year. Today, labor skilled in this technique is rare and expensive; crown grafting was once common in conversion of orchards, but makes most sense with stone fruits, where replant disease makes growers unwilling to grub out and replace an orchard of established trees.

Cleft grafting begins with the collection of scions. Pencil-thick, pencil-length, straight sticks make the best scions. The source tree for the scions must be

fully dormant at collection time. Avoid collecting, or even contacting by hand, any infected parts of the tree (gummosis, cankers, or fireblight). Do not wait until the Spring Event to collect scions; scion collecting is done at the plant's convenience, not yours. Soon after the winter solstice, many fruit trees have begun breaking dormancy in California to be well expanded by New Year's Day, and some plums ('Inca'), all ume (a Japanese apricot), and Chinese quince are in bloom by mid-January.

Expansion of the buds, as well as exposure to room-temperature heat, shortens or ends the viability of scions. Bag and label all scions, and refrigerate them immediately. Use zip-lock plastic bags with a few drop of water; never use paper, which can form botrytis mold that attacks the scions. Many or most of the scions offered at our scion exchange have been left out at ambient temperatures, and this is the most likely cause of members' failure at grafting. Store scions at a temperature as close to 32°F as possible. Leaving them outside at temperatures over 50°F for a day or two will destroy their viability. When scions are not refrigerated, enzymes and microbes act quickly to ferment the sugars in the scions and destroy nitrogen compounds in their cambium layer.

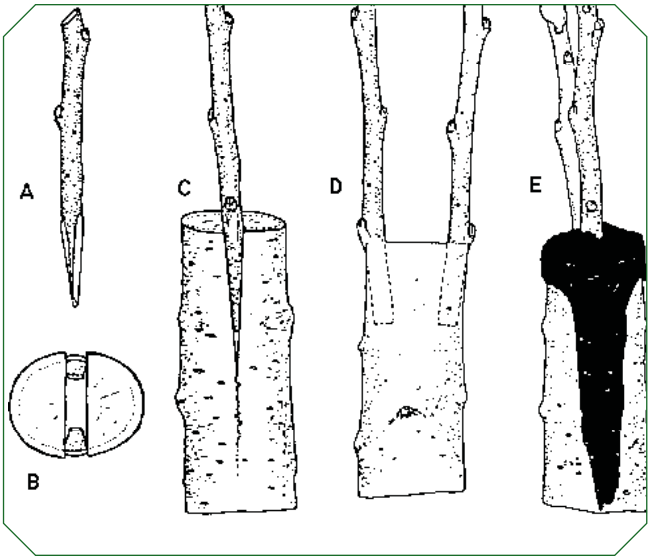


The optimum rootstock is a young tree, in the ground for one year, with a diameter of 3/8 inch or so. Diameters over 1/2 inch are iffy, and rootstocks over one year old are predisposed to send up sprouts from below ground, in preference to uniting with the scion. Grafting onto established trees at a considerable distance above ground level is highly unsuccessful among stone fruits, always so if the entirety of the tree is not top-worked simultaneously.

Graft when freezing nighttime temperature will no longer occur. Cut the rootstock off within an inch or so of the ground using bypass-type shears (never anvil-type, which crush the wood beyond recovery). Loppers always crush the bark of the rootstock also. The bark and tissue immediately beneath it must be intact.

Scion preparation for the graft is a form of whittling, and may be done with a kitchen knife, so long as it has a well-honed cutting edge. Make a fresh cut at the bottom of the scion; then make two slanting cuts on the bias to meet at the center of the scion, the exposed wood of the cuts to be an inch or so in length. Slice away from your hands and body if you are a beginner; a band-aid around your thumb may give more confidence or serve as a reminder to be careful. At the sides will be a thin sliver of scion bark, diminishing to a sharp point. The resulting scion should be a pointed stick; cut the top, leaving three buds on the prepared scion.

For a cleft graft, lay the edge of the knife blade across the diameter of the rootstock and, with a hammer (a leather one makes discreet taps), pound it in, splitting the stock in two, to a length of an inch or so. Try to achieve straight, not ragged, sides to the split; this is difficult when using a steel hammer. A second knife may help to extract the first, at this stage. Keep the first knife inserted, at the center or one side of the split, and insert your scion at the other edge of the split. Except in the case of bench grafting, it is emphatically unnecessary to have the scion and rootstock of the same diameter; in fact, the writer always inserts two scions in every cleft graft, at opposite sides of the split. Sometimes they touch at the center, sometimes not "it hardly matters; but so done, the scions are of course always smaller than the rootstock in diameter.



The next step is the most important. With the knife still inserted and tweaked to allow movement of the scion in the split, jiggle the scion to the outer edge, then back ever so slightly, until the exposed green line in the cut surfaces of the scion matches with a comparable line in the periphery of the rootstock. This line is the cambium layer; it is the only living part of the tree trunk, and it is essential that the respective cambia are matched. Then

insert a second scion at the opposite end of the split, if your rootstock can accommodate it, keeping the knife in long enough to allow the insertion. This second scion is more difficult to move and match with the cambium of the rootstock. Experience is the grafter's only teacher for matching of cambia.

Wrap the terminal portion of the rootstock upwards from where the split is evident with a non-adhesive nurseryman's tape. Never use electrician, Teflon, or masking tape. Pull the tape tightly, or the rootstock will squeeze the scions out. Never wrap across the top of the rootstock surface.

Do not wrap the scions because this will pull them out of cambium contact for sure. Wrapping the entirety of any part in Parafilm is unnecessary and practically guarantees that cambium contact will be destroyed. Use a small paint brush to paint the cut surfaces and taped portion of the rootstock with pruning paintâ€"avoid the aerosol type, which has weed killer action. Using delicate strokes, paint only the cut tips and exposed cut surfaces of the scions. Never paint over the buds, which will prevent their growth. Avoid polymer paints, such as "Doc Farwell" they permanently interrupt the "knit" of the wound into continuous wood. Such grafts always fail to form a sound union. The graft is done. Label it with name of the fruit variety and return periodically to monitor the rootstock and to pull away any sprouts from below the graft, during the next several months.

Rootstock Compatibility

Rootstock / Scion

European Pear (OHx)
European Pear, Northern Spy Apple only, Hawthorn (various species), Medlar (imperfectly compatible), Nashi (Asian pear)

Apple
Apple, Medlar

Quince
Pear (always dwarfing, many varieties incompatible), Quince, Loquat (dwarfing)

Peach
Peach, Nectarine, European Plum (short-lived, many varieties incompatible), Almond, Ume, Apricot, Plumcot, Asian Plum

Almond
Almond Almond, Peach, Nectarine, Asian Plum, Apricot, European Plum (many varieties incompatible), Ume, Plumcot

Cherry (Mazzard & Mahaleb)
Sweet Cherry, Sour Cherry

Apricot
Apricot, Plumcot, Ume, European Plum (most varieties incompatible), Peach (short-lived), Nectarine (short-lived), Asian Plum

Cherry Plum (Myrobolan & Marianna)
Asian Plum, European Plum (some varieties incompatible), Plumcot, Ume

Asian Pear (Pyrus calleryana, P. ussuriensis)
Nashi (Asian pear), Asian pear hybrids, European pear (fruit quality affected, some partial or delayed incompatibility)

Pome News, Spring 2005

Fruit Tree Sources

Fowler Nurseries, Inc.
www.fowlernurseries.com
Newcastle, California
(800) 675-6075

Living Tree Center, Old and biblical tree fruit
PO Box 10082
Berkeley CA 94709
(510) 420-1440

Trees of Antiquity
20 Wellsona Road
Paso Robles CA 93446
(805) 467-9909

Greenmantle Nursery
3010 Etterburg Road
Garberville CA 95542
(707) 986-7504

New Dwarf Type May Be a Giant of Grape Research

Really big things may come from Pixie, a very small grape recently released by the Agricultural Research Service (ARS).

The seeded black fruit of this grape line is not meant for eating. Instead, the variety's novel traits make it ideal for genetics, genomics, breeding and other research that can lead to new breeding lines or cultivars that grape consumers will love.

Pixie fits well into its classification as a dwarf variety. According to Peter Cousins--the geneticist in the ARS Grape Genetics Research Unit at Geneva, N.Y., who helped develop it--mature clusters of Pixie typically measure slightly less than four inches long. He said that a Pixie grapevine can be grown in a coffee cup and still produce some grapes.

This characteristic reduces by about 50-fold the amount of space needed for grapevine experimentation, as Pixie vines can be grown in the greenhouse to maturity without ever needing to be planted in a vineyard.

But what really makes the new grape line special is its ability to initiate fruit year round. In fact, according to Cousins, it's typical to observe flower buds, blooms, immature fruit, and ripe fruit--all on the same vine.

While this trait would not be useful for the consumer-grape industry--grape producers prefer to pick their crop just once--it does accelerate research, allowing for year-round studies on flowers and berries at all stages of development.

The Pixie dwarf variety grapevine shown above is slightly less than 10 inches in length. The grapes measure just a shade less than four-tenths of an inch in diameter. Photos courtesy Peter Cousins, ARS.

To inquire about the availability of this new variety, write to Peter Cousins, USDA-ARS, Grape Genetics Research Unit, 630 W. North St., Geneva, NY 14456.

For more information contact:
Peter Cousins, peter.cousins@ars.usda.gov,
Phone: (315) 787-2340

Wolfskill Research Center

The ARS Wolfskill Research Center in Winters has graciously opened their center to us and presented research from their National Clonal Germplasm Repository (NCGR) and allowed us to taste from their collection for several years now. The NCGR would like us to know that harvesting is not allowed at the center. Instead they encourage we visit their website and order scions free of charge.

Please visit their website to place your order. http://www.ars.usda.gov/Research/Research.htm?modecode=53-06-20-00

For more information on fruit collected, preserved, evaluated, and distributed by NCGR contact:

Dr. Ed Stover
Curator & Research Leader
One Shields Avenue
Davis, CA 95616
Phone: (530) 752-7009

This may be the last tasting due to possible cutbacks. Three tables with bowls of arils were set out to sample. They range from sweet and mild, to tart and tangy.

Thank you, Nikki Justino for sending in the Pomegrante Tasting 2007 photos and information.

Hybridization Group Tree Sale

Sini Falkowski

We will have dormant bareroot trees for sale from some of our new crosses. We are offering these sturdy trees for $15 plus a $5 donation to our group for growing expenses. So the total value of each tree will be $20 each. I will take orders for the trees in advance of the sale at Prusch so that you will be ensured to get these rare new trees. All advance sale and regular sale trees will be distributed at the Scion Exchange at Prusch Park. The trees that have not been presold and reserved will be sold at the January 12, 2008 Scion Exchange on a first come first served basis. This is according to our agreement with the Santa Clara County Agriculture Department.

We can conduct this sale once only during the 2008 season according to our permit. So if you don't buy your trees now you won't be able to get them later. These trees cannot be propagated by you or scions taken as there are "Patent Pending".

We will also have a few dormant cherry trees on sale at the Scion Exchange. They are: Rondel Heart, Black Eagle, Governor Wood, Merton Bigarreau, Merton Heart. These are nonpatented trees.

Below are the description of the trees we will have available. They are all on Lovell rootstock. At the 2009 Scion Exchange a year from now, we will have our wonderful new apricot varieties which we evaluated this summer and will be propagating this winter. One is a very floral fragrant white apricot which is delicious and a late apricot which fruits in August. Both are excellent tasting. They will be on the new Torinel rootstock which is virus free.

To preorder: Contact me at: sinif@sbcglobal.net

Many trees still availble, call Sini for complete list:

(4)ATHENA peach: Likely a seedling of 'Pallas' peach, an old heirloom and flavor like a honeydew melon. Unlike its parent, however, this is not susceptible to pre-harvest drop as its parent.

(5) LONGEVITY peach: 'Longevity' is a honey-type peach--a small, white peach long famous in China where the God of Longevity is depicted holding
a small, oval, beaked peach in his hand. The peach is a symbol of long life in China, and the honey group is known for its juicy texture and sweet, honey-like flavor. 'Longevity' is very similar to the more common honey peach variety, the 'Eagle Beak,' but it has less of the almond-like astringency associated with 'Eagle Beak.'

(7)BLIZZARD nectarine: A late-maturing fruit, usually late July or early August, with white flesh and flavor that has an excellent balance of sugar and acid, similar to 'Snowqueen.' Juicy and highly flavored.

Common Ground Classes

To register for classes, call Common Ground at 650 493-6072, then send a check for the full amount to Common Ground, 559 College Avenue, Palo Alto, CA 94306.

Grafting Fruit Trees

James Kern Saturday, January 19,
1:30-3:30 $26
Grafting allows you to have the variety of fruit you want on the appropriate rootstocks and to graft more than one variety onto new or existing trees. You will learn the plant physiology involved in grafting, different techniques available, and the steps needed to produce a grafted fruit tree. Scion wood included. Please purchase grafting knives before class, available at Common Ground.

Fruit Tree Varities

Nancy Garrison Saturday,
February 2, 2008
10:30 -12:30 $25
Learn which varieties of peaches, nectarines, plums, pluots, apricots, apples and pears are the delight of connoisseurs. You will be introduced to the best of the best-tasting deciduous fruits that grow in this area and learn where to source your own plants.

Fruit Tree Pruning

Kevin Raftery Saturday,
January 12, 2008
10:30-2:00 $39
Learn how to maximize tree health, fruit production and to identify dead wood. Espalier care also discussed. Meet at Common Ground, then proceed to a local orchard - rain or shine. YOU BRING: pruning shears, bag lunch and a notebook.

Insect Life for a Healthy Garden

John Jeavons Saturday,
February 23, 2008

Scion Exchange 2008

Saturday, January 12, 2008
Emma Prusch Farm Park
Open for members at 10:00am
Doors open to the public at 11:00am
Event is over at 3pm

Volunteers needed *for scion collection in December at various locations.*

Contact Karl to offer help or any questions regarding the Scion Exchange.
Email: gross_karl@sbcglobal.net. *Phone: (408) 733-5317*

Scion Prep/cutting Party

Saturday, January 5-Prusch Park - 8:30am Pot Luck

Scion Exchange Set-up

Friday -January 11-Prusch Park- 3pm

Scion Exchange

Saturday-January 12-Prusch Park- Set-up 8:30 through clean-up

BOARD OF DIRECTORS 2008

Chair	Nancy Garrison nancyg2@aol.com	408-298-5828
Immediate Past Chair	Corrie Grove freestate@juno.com	650-372-0516
Vice-chair	Open	
Secretary	Open	
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Board member	Walt Compton Whc2@rcn.com	650-570-5567

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Librarian	Doron Kletter kletter@impact.xerox.com	650-571-1258
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