The Fruit Leaf

Santa Clara Valley Chapter

California Rare Fruit Growers, Inc.

November/December 2008

http:/www.crfg.org

Photo of Uzbekistan pomegranate provided to Harvey Correia by tour agent

Inside this issue

Membership
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Phone 408 996-3112
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Next Meeting

December 13, 2008
Emma Prusch Park
Social and set-up 12:30
Meeting 1pm to 4pm

THE AESTHETIC PRUNING OF FRUIT TREES

JUDITH L. THOMAS,
"PLANT CONSULTANTS"
Arboricultural Consultant,
Horticultural Advisor
Retired Full-time Faculty Member
Dept. of Landscape Horticulture

This talk summarizes some of the major rules for aesthetic pruning. Pruning brings out the natural beauty in the trees without sacrificing fruit production or quality for the home grower. Judy will discuss the major characteristics of many fruit tree types: how one can deal with their "personalities," tips for pruning them, how, when, and where, some fruit tree grafting issues, how to get rid of suckers, (e.g. plum trees,) summer vs. winter pruning, some of the most common problems seen in home orchards, miscellaneous tips, and some thoughts on tools to use."

SC CRFG Membership runs from January thru December. Please renew it at the next Chapter meeting on December 13 or at the Scion Exchange on January 10. For information on chapter membership, notification of address and phone number changes, please contact:
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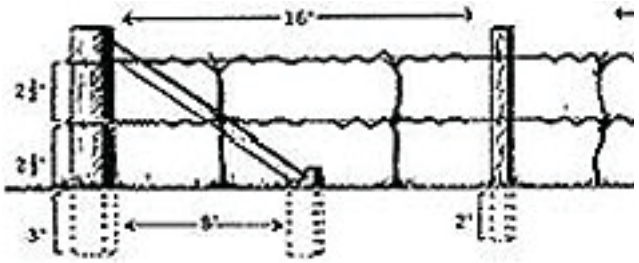
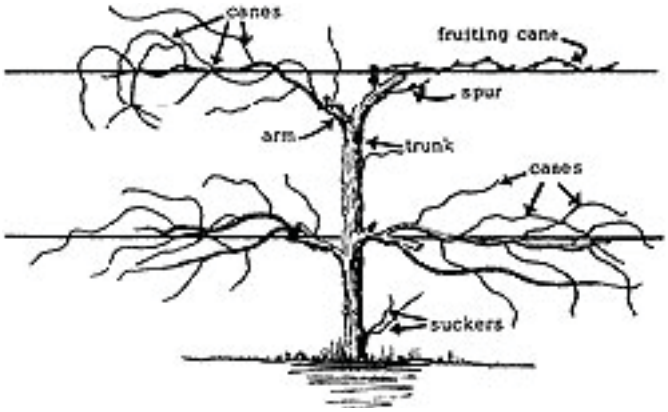
Pruning Table Grapes

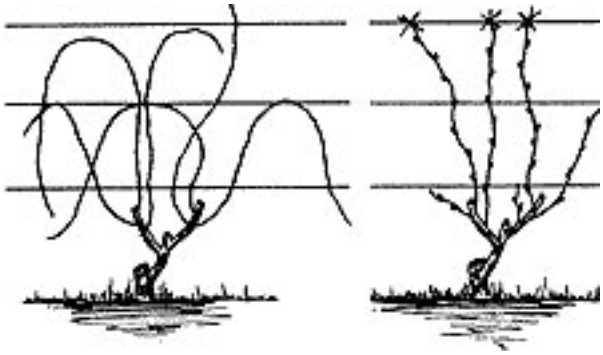
Nick F. Lolonis

There are primarily three systems of pruning table grapes, cane pruning where usually two to four canes having eight to 15 buds are left to bear the crop and cordon pruning where five to eight short spurs (2 to 3 buds) are left on the horizontal part of the trunk. Both of these systems require a trellis having 2 or 3 horizontal wires for support. The cordon can be a single or bilateral. On cane pruned vines, 2 to 4 renewal spurs must also be left to provide canes for next season.

The third system is head pruning and is the most popular with home gardeners because of its simplicity and requires no trellis for support. One stake is all that is required for support. However, cane pruning is a must for varieties such as Thompson seedless (*Sultanina*) where the basal buds on most canes are un-fruitful. Cane pruning is also recommended on vines that have a tendency to be low in yield, especially when these vines are grown in areas such as the San Francisco Bay where the climate is too cool and growth is excessive at the expense of fruit production. After all, we should bear in mind that the European grape, *Vitis vinifera* which we usually prefer to grow in our back-yard, is a native of Afghanistan where summer temperatures often exceed 120° F. An excellent reference on pruning grapes is "General Viticulture" by A.J. Winkler, University of California, Davis. Pictures of pruning are shown below are from the UC ANR media library.







Wolfskill photos by Edward Chen and Nikki Justino

Wolfskill Pomegranate

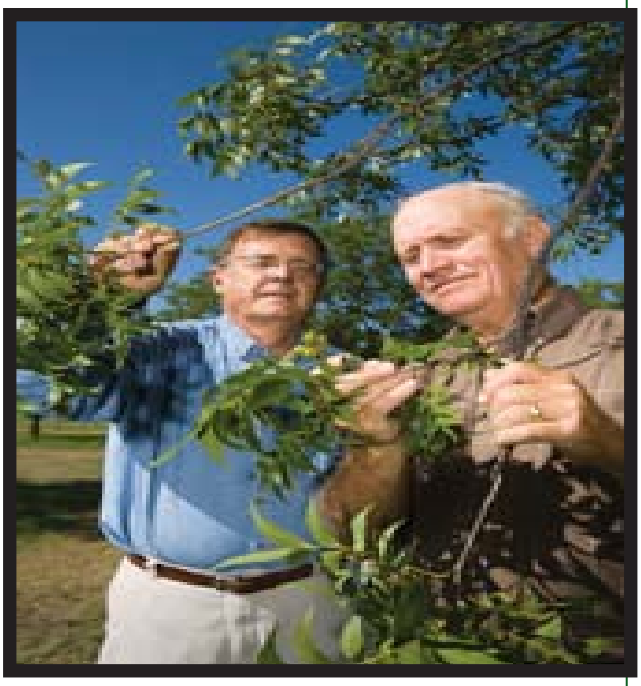
Joe Real

This years' pomegranate tasting was well organized, and combined with a persimmon tasting. This year, my daughter and I had more than enough time to do a thorough sample. I brought my clipboard caliper to actually measure fruit size and I have those measurements if requested. The harvest date is not exactly the date that the fruits ripen. It is shown only for documentation. Soft to medium seed hardness with a Balance and Flavor of 6 and greater are strongly recommended for fresh eating. I have kept the wine notes to myself this time around but will post if for those interested. Many thanks to the people who organized the event, especially to the USDA staff who prepared all the arils and also gave us a free shuttle ride to the pomegranate orchard. There were about 55 people who attended the event. Harvey was there, as-well-as a Paramount Farms Representative.

Wolfskill Experimental Orchard Pomegranate Tasting Results
November 8, 2008
By Joe Real and his daughter Katrina Real

Cultivar	Harvest Date	Fruit		Arils		Taste			Seeds		Note
				Color					Size	Hardness	
Sin Pepe (DWN Pink Satin)	10/30	5	7.5	2	10	1	8	G	S	S	
Fleischman's	10/30	3	7.5	3	10	2	7	G	S	S	
Medovyi Vahsha	10/28	8	7	8	9	3	7	G	M	S	Straw-like aftertaste
Myatadzhy	10/30	10	6.5	8	8	3	7	G	S	S	
Sirenevyi	10/28	5	10	7	8	4	7	VG	M	S	
Nikitski ranni	10/21	6	10	5	8	7	5	G	M	M	
Dorosht 5 hahan-shahi Khoramabad	10/28	7	6.5	6	6	4	6	F	M	H	
Parfianka (DWN Garnet Sash)	10/28	9	7.5	9	10	5	7	VG	S	M	Cherry-like flavor
Gissarskii Rozovyi	10/21	2	5	3	7	6	5	F	S	S	
Desertnyi	10/21	3	8.5	8	6	6	6	VG	M	S	
Ariana	10/21	8	10	8	8	5	5	G	M	S	
Andalib	10/21	7	7	8	6	6	5	G	M	H	
Palermo	10/28	5	7	8	6	4	7	VG	M	M	
Ink	10/21	5	9	9	6	4	7	VG	M	M	
Purple Heart (DWN Sharp Velvet)	10/21	5	9	8	5	6	5	VG	M	M	
Wonderful	10/30	9	8	10	6	6	5	G	M	M	
Molla Nepes	10/21	8	9	8	7	6	4	F	M	M	
Haku-botan	10/30	1	4	1	4	8	1	P	M	H	
Key:											
Color: 10 = very dark red, 1 = white											
Size: 10 = very large, 1 = very small											
Overall Taste: P = Poor, F = Fair, G = Good, VG = Very Good											
Seed Size: S = Small, M = Medium											
Seed Hardness: S = Soft, M = Medium hardness, H = Hard											

Organic Pecans: Another Option for Growers



ARS scientists in Weslaco, Texas, are developing new methods to increase yields and organically manage pecan trees. Here, soil scientist Joe Bradford (left) and Danny Phillips, a retired Hamilton County, Texas, Extension agent, inspect pecans from the 2008 crop in the organic study orchard, which is expected to greatly outyield the conventional orchard.

The pecan's name comes from an Algonquian word meaning "a nut that requires a stone to crack." Widely consumed out of hand and used as an ingredient in baked goods and confections, pecans are a good source of protein. And the antioxidants and plant sterols they contain may improve consumers' cholesterol status by reducing the "bad" LDL cholesterol levels.

Despite only having commercially produced the nut since the 1880s, U.S. growers now provide roughly 90 percent of the world's pecans, with an annual crop of about 200 million pounds worth about $400 million dollars.

New ARS studies in Weslaco, Texas, are showing that it may be possible for growers to boost their revenue further by growing pecans organically.

In 2002, ARS scientists—led by Joe Bradford, research leader for the Integrated Farming and Natural Resources Research Unit in Weslaco—began transitioning part of a 27-year-old pecan orchard from conventional management to certified-organic management. The 20-acre test site is located within the Adolph (Sonny) and Noreen Gebert pecan orchard in Comanche County, in north-central Texas. Mid-season organic pecan clusters indicating disease-free leaves and nuts and little insect damage.

Bradford was contacted by Sonny Gebert in 2001, after Gebert tuned in to a radio show during which the two hosts mentioned Bradford's research on organic crops. Gebert then phoned Bradford, and the two arranged to meet in Goldthwaite, Texas, at a Texas A&M workshop in 2002. Gebert agreed to let Bradford and his collaborators manage half of the nearly 800 pecan trees in the Gebert orchard using organic principles. ARS would manage the older portion of the orchard, which was planted in 1981. The Geberts would continue to manage the newer portion, planted in 1986.

The main objective of the project is to provide pecan growers with information on how to convert to an organic system from a conventional management system that relies on synthetic chemicals. Bradford and his technicians are constantly changing the variables within the system and examining the interactions that result from those changes.

Retired Extension agent Danny Phillips and soil scientist Joe Bradford examine trees within the organic orchard at the Sonny and Noreen Gebert pecan orchard for potential crop yield and possible diseases and insects.

Healthier Trees From Healthy Soil

The ARS organic management system was based on first increasing soil organic matter, balancing the nutrients and biology of the soil, and using organic pesticides only when needed. Bradford theorized that by improving tree health through improved soil health, the trees would naturally become more resistant to disease and insect attack. The researchers decided to evaluate several soil treatments in the test orchard and to treat the trees aboveground using organic methods. They began applying treatments in the fall of 2002, shortly after their first summer visit with Sonny Gebert.

They studied five pecan varieties—Caddo, Cheyenne, Desirable, Pawnee, and Wichita—applying vari-

ous organic amendments several times during the year, both to the soil and to the leaves. As many as 15 soil fertility and biological treatments were applied, while the aboveground portion of the orchard received a uniform foliar treatment. Treatments used include poultry litter and compost, rock minerals, mycorrhizal fungi, and nutrients such as iron, zinc, boron, copper, and manganese.

Technician Victor Valladares (left) and welder Emilio Chavez prepare compost tea by pouring compost into an extractor. After brewing, 60 gallons of a high-microbial-populated compost tea will be extracted and ready to be sprayed on the pecan trees.

Since the death of Sonny Gebert in early 2008, management of his pecan orchard has been taken over by Danny Phillips, a retired Extension agent from Hamilton County who is employed by Noreen Gebert. The ARS scientists continue to travel to the orchard about once each month from March until the November harvest—the growing season for pecans—to apply soil treatments and compost teas.

Larry Zibilske, a soil scientist in Bradford's research unit, became involved in the project during the 2008 growing season. He is measuring changes in soil microbial properties resulting from the various treatments applied over the last 6 years. As soil fertility increases with organic treatments, microbial populations benefit greatly. Not only do they become more diverse, they also take a more active role in providing nutrients to the trees and protecting the roots from pathogens. The key is to modify the soil microbial habitat so that the beneficial organisms persist and provide a lasting, nurturing environment for the trees.

Evaluating the Results

Contrary to conventional growers' expectations, the ARS organically treated test site outyielded the Geberts' conventionally managed, chemically fertilized orchard in each of 5 years. The best ARS treatment surpassed the Gebert control by 18 pounds per tree—44.10 pounds compared to 25.85 pounds—in 2005 and by 12 pounds per tree—45.09 pounds compared to 33.39 pounds—in 2007. Because pecans are an alternate-bearing tree, both orchards' yields were very low in 2004 and 2006.

Compost tea is sprayed on the organic trees once every 6 weeks throughout the growing season. Compost tea improves plant health and helps to control insects and diseases.

"This is the most successful organic project I have been involved with," says Bradford. "The results are especially satisfying, because we have shown that it's possible to grow nuts under the organic system that are far superior in looks and in taste."

Also involved in the project are plant physiologist Nasir Malik and entomologist Allan Showler, who both work in Bradford's unit. Malik and Showler will next compare some of the nutritional values of the organic and conventional pecans harvested this fall.

But What About Pecan Pests?

Another positive result was that the ARS researchers learned how—with the help of beneficial *Trichogramma* wasps—to control the pecan casebearer. As one of pecans' major pests, the larvae of this one-third-inch-long gray moth tunnel into the small, immature nutlets, killing them. The very tiny parasitic wasps of the genus *Trichogramma* lay their eggs inside casebearer eggs, turning them black and preventing the casebearer larvae within from developing. Using a dissecting microscope, biological science aid Jay Alejandro views tiny Trichogramma wasps parasitizing insect eggs. Wasps are released into the organic pecan orchard biweekly to control the pests.

As a backup control, the scientists used the organic bacterial insecticide known as "spinosad," which is derived naturally from a soil-dwelling bacterium, *Saccharopolyspora spinosa*.

The researchers also found that foliar applications of compost tea—a brew made of compost, small amounts of food sources for microbes, and water—somewhat increased trees' resistance to insects and achieved some disease control when applied each month after flowering. They think that another major pest of pecans, the pecan weevil, was somewhat controlled by compost tea applied to soil. Additional research in 2008 will verify whether this treatment will be added to the recommendations by Bradford and his team.

Currently, ARS scientists are working to better control pecan scab caused by a fungus that, if not

curbed, can cause entire crops from most varieties to be lost during periods of frequent rains or extended dew. Scab is the most destructive disease of pecans in the hot, humid South.

The researchers also believe that the alternate-bearing characteristic of pecan production will lessen—or disappear—after several years of organic management. ARS data shows that pecan trees in the Hamilton organic orchard bear 40 pounds per tree in the good years and about 4 pounds per tree in the lower yielding years—a drastic difference that can make or break some of the smaller pecan producers. Bradford thinks that the organic system will eventually even out the wild discrepancies between the good and bad yields.

"This year, which is the low-yield year in the alternate-bearing cycle, the conventional orchard has few to no pecans, yet our organic orchard has a lot of pecans. The typical 4 pounds per tree measured in 2004 and 2006 could be at least 15-20 pounds this year," he says.

Technicians Veronica Guzman (left) and Rene Martinez process soil samples for organic matter analysis. Soils from the organic orchard have more organic matter and microbial activity than those from the conventional pecan orchard.

Dollar Value

Pecans from the Gebert orchard generally sell for about $2.00 per pound wholesale. Using the average yield for the conventional management system of 25 pounds per tree and roughly 35 trees per acre, sale of the crop generates about $1,750 per acre (25x35x$2). But the ARS best-management organic system yield of 44 pounds per tree would gross $3,080 per acre (44x35x$2), for an increase in sales of $1,330 per acre. While production costs add about $100 per acre, the value of the pecans is increased by at least $1.50 per pound. Thus, pecans harvested from an orchard certified as organic would generate $5,290 per acre [(44x35x$3.50) – $100]—for an increase of $3,540 per acre above the returns from the conventional management system.

These greater dollar returns prove that adopting an organic system and obtaining certification could provide a valuable additional source of income to pecan growers, thanks to increased yields and improved kernel quality.

"I believe our greatest accomplishment is that we, as scientists, have shown it's possible to design a management system that growers will adopt," says Bradford. "That's really the biggest thing—to prove that this is a change for the better."

He also notes that converting pecan production from conventional to organic can translate to other crops. "We think that the techniques we've tested here can apply to peaches, apricots, apples, walnuts—to all tree crops, and to plants in general."—By Alfredo Flores, Agricultural Research Service Information Staff.

This research is part of Integrated Agricultural Systems, an ARS national program (#207) described on the World Wide Web at www.nps.ars.usda.gov.

Joe M. Bradford is in the USDA-ARS Integrated Farming and Natural Resources Research Unit, 2413 E. Hwy. 83, Weslaco, TX 78596; phone (956) 969-4859, fax (956) 969-4800. *"Organic Pecans: Another Option for Growers" was published in the November/December 2008 issue of Agricultural Research magazine.*

California Rare Fruit Growers Santa Clara Valley Chapter
2009 Scion Exchange

Scion Prep Day at Prusch Park
Saturday, January 3, 2009
Contact Karl if you would like to participate. See page 8 for contact information.

Scion Exchange
Saturday, January 10, 2009
11 a.m. to 3:00 p.m.
Prusch Park Multi-Cultural/Recreational Center
647 S. King Rd, San José, CA

Scionwood:
Hundreds of different varieties of Pome (Apple and Pear), Stonefruit (Apricot, Peach, Plum, Nectarine, Cherry), Persimmon scions & more for grafting to your own backyard fruit trees.

Cuttings:
Fig, Berry, Pomegranate, Grape, and other cuttings to propagate by rooting.
Everyone is invited free* to our annual event, featuring propagation material of fruiting plants and growing information not readily available at any price. Bring a plastic bag for your scions and labeling material. (Some grafting supplies will be available for sale).

Grafting Demonstrations start @ 11:15 a.m. in the Meeting Hall.

**Donations gratefully accepted at the door. Become a chapter member for*

Library Donations Needed!

Walt Crompton

Perhaps you do not even know it, but the SCV CRFG has a collection of fine and sometimes very rare books that cover every aspect of arboreal management, and then some. Doron Kletter our Librarian, has graciously housed these volumes in his San Mateo home for several years, but we finally have a niche in one of the farmhouses at Prusch Park in which to build a more accessible library. We have budgeted a small amount of money to purchase bookcases and simple furniture, but it seems that the nice stuff is a bit out of reach. Here's where you can help! Wouldn't it be nice if we could house our collection in a beautiful period pieces, instead of boring steel and plastic cases that are currently the best we can do? It would further enhance this wonderful park, reflect well upon us, and make the whole process more pleasant. If you have attractive bookcases that can somehow be locked (perhaps with minor modifications?), a small table, or a lamp that would fit the application, please call Walt Crompton at 650-570-5567. Once we get the library set up, we can use quality literary donations, as well. To commemorate the generosity of the donors, donated items of will be labeled as a gift from you. You can feel good about your donation right now, and also know that your offering will be appreciated for a long time by future rare fruit enthusiasts. Surely with all of our empty-nester members, there must be some unused bookcases out there. Put them to good use at Emma Prusch Park!

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