



October 2003

## PEAR FRUIT ROT PROBLEMS

Two distinct problems have been affecting pear fruit in several orchards before harvest in recent years. One problem is a calyx-end blackening, with a large, round but sometimes irregular lesion. The flesh underneath the blackened area is hard and discolored, and large splits sometimes accompany the lesion. The symptom looks identical to the "black-end" photo in [Disease of Temperate Zone Tree Fruit and Nut Crops](#) (UC Pub. no. 3345).

According to the book, the disorder occurs when pears are grown on rootstocks such as *P. serotina*, *P. ussuriensis*, *P. betulaeifolia*, and Keiffer, but seldom on European (*P. communis* [French]) rootstocks. No other causal factor is known. "It is postulated that black-end is caused by certain metabolites produced in Asian pear rootstocks and translocated to the fruit of French pear scions. These toxic metabolites, which most cultivars apparently cannot catabolize, accumulate in the calyx end and induce the necrosis typical of the disorder. The only practical way of avoiding the disease is to propagate the trees on French rootstock."

The other fruit problem is the rot that many growers refer to as "sprinkler rot." I have seen more than usual in the last couple of years, so I took pear samples to both the UC Davis Plant Pathology Dept. and the CDFA Plant Pest Diagnostic Lab in Sacramento. Both labs found the causal organism to be *Phytophthora cactorum*, which is one of the leading crown and root rotting organisms of walnut, apple, and pear. Pear fruit are very susceptible to *P. cactorum* and plant pathologists often use pears to conduct bioassays for this organism. It is probably coming into the orchard in the irrigation water; alternatively, it could become airborne and the frequent sprinkler irrigation in June could simply provide the environment necessary for infection to occur. The best control method is to reduce the angle of the sprinklers to reduce the amount of water hitting the canopy. According to one source, if irrigation water comes from a contaminated

source, addition of a low concentration of copper (1-2 ppm) will kill spores and reduce inoculum available for fruit infection. Of course, higher levels of copper can result in fruit russetting, so precise application would be required. I recently placed several mesh bags of pears in the Sacramento River and an adjoining slough for two days, and the CDFA lab will determine if *P. cactorum* or other species are present in the river. More on this topic in the next newsletter.

## POSTHARVEST NITROGEN FERTILIZATION OF GRAPES

*Bill Peacock, UCCE Tulare Co. Viticulture Advisor*

Grapevines depend heavily on nitrogen (N) stored in roots and other permanent vine parts to support early spring growth. A postharvest application of N can effectively increase the vine's storage N. To be effective, postharvest applications of N should be incorporated and irrigated into the root zone as soon as possible after harvest to allow the vine ample time for uptake before dormancy. Uptake also requires that vines have an intact and functioning leaf canopy.

Determining how much N to apply is a compromise between production and quality. A deficient vine will have a smaller crop but the highest fruit maturity. A vine with moderate N status will achieve optimum production and intermediate fruit maturation. The addition of N beyond the moderate status will further delay fruit ripening, increase bunch rot, and potentially reduce vine fruitfulness. Vineyard problems stemming from too much N are more common than those stemming from too little. A vineyard can often coast for years without fertilization before vines become deficient. When N fertilization is recommended, 25 to 50 pounds of N per acre are usually applied depending on variety, tissue levels, soil type, and irrigation method. Nitrogen fertilizer is not always necessary. Vines grafted onto vigorous nematode resistant rootstocks 'Ramsey' ('Salt Creek'), 'Freedom,' and 'Harmony' often do not require (*Cont. Page 2*)

### *PostHarvest Nitrogen Fertilization of Grapes cont.*

N fertilization due to their more vigorous and explorative root systems and excess vigor. Also, vigorous vines with a history of excess growth do not require N fertilization. Vineyards with winter legume cover crops such as vetch or bur clover or that are irrigated with water high in N require no fertilization.

### **GLASSY-WINGED SHARPSHOOTER UPDATE**

*Ramona Saunders,  
Sacramento County Agric. Commissioner's office*

This summer we have found evidence of a persisting population of GWSS in the vicinity of Hwy 50 and Sunrise Blvd. This is in the same area we originally found it in 2000. Last year we did limited spraying in the area and this year's treatment was even smaller. Since this area of Rancho Cordova is already quarantined, the boundaries remain the same – and no commercial vineyard is closer than 8 miles away.

The Foothill Farms area, even farther from commercial vineyards, was also treated. Last year we did limited spraying in the same vicinity. Because this is in the known infested area, the boundaries of CDFA's quarantine area will not change. With evidence of GWSS on about 3 properties, we treated those properties and all adjacent properties totaling about 25 residences in mid-October.

For both infested areas we applied Merit 75 WP (Imidacloprid) as a foliar treatment on all host material except for olives, sunflowers, pomegranates and figs.

### **TREE & VINE LOSS CALCULATOR**

Several people have inquired as to how to calculate the value of trees lost due to traffic accidents, toxic spills, etc. The "Tree & Vine Replacement Cost Calculator" is a MS Excel spreadsheet that calculates the value of a single tree or vine lost to any cause and then replanted and grown to maturity or to the age at which it was lost, whichever occurs first. It requires knowledge of several factors, such as tree or vine age; the costs of stump removal, the new tree/vine, planting, pruning, harvest; yields; and crop value. The calculator was developed by Karen Klonsky and Pete Livingston with the Agriculture & Resource Economics Dept., UC Davis. If you'd like a copy, e-mail me ([caingels@ucdavis.edu](mailto:caingels@ucdavis.edu)) and I'll e-mail the 115 KB file to you.

### **NEW PEAR COST STUDIES AVAILABLE**

New cost of production studies for pears (and many other crops) are available for free on the web at <http://coststudies.ucdavis.edu/>, or call (530) 752-1515 to order a hard copy. A \$3.00 handling fee is charged for each report mailed. New pear studies include Sacramento (2003), North Coast (2003), North Coast using puffers (2003).

### **IRRIGATION PUMP EFFICIENCY PROGRAM OFFERS \$6.4 MILLION**

The Center for Irrigation Technology (CIT) at CSU Fresno is implementing a \$6.4 million program to improve the efficiency of irrigation pumps in the Central Valley. Funding for the program was made available by the California Public Utilities Commission.

Goals of the new project include conducting efficiency tests on as many as 5,000 pumps, and repairing about 500 pumps as a way to decrease electricity and natural gas consumption. Education is also a major component of the program, and CIT has been using specially equipped mobile trailers to present seminars statewide during 2003.

The program will pay up to \$200 for a single pump test and about 1/4 to 1/3 or more of the cost of retrofitting or repair. Those eligible to participate must be agricultural rate customers of PG&E or three Southern California companies. CIT is taking applications through December 31, 2003.

Program details are available at [www.pumpefficiency.org](http://www.pumpefficiency.org) or by contacting toll free the San Joaquin Valley Regional Office at **800-845-6038**, the Northern California Regional office at 866-333-8938, the Southern California Regional Office at 866-333-8938, or the Central Coast Regional Office at 800-845-6038.

### **NEW PUBLICATIONS**

#### **Wine Grape Varieties in California**

This much anticipated book is the first comprehensive variety publication written by UC viticulture specialists and advisors to cover all of the wine districts in California. Included are five extensive tables on ripening periods by growing district, rootstock selections, trellising systems with illustrations, and minor wine grape varieties. Also included are up-to-date summaries of available and registered clones, detailed illustration of grapevine structure, a glossary, and a bibliography. Price: \$30.00. 188 pp. Order online at <http://anrcatalog.ucdavis.edu> or call (800) 994-8849. (See enclosed brochure.)

## NEW PUBLICATIONS CONT.

### **Tree Fruit Pest Identification and Monitoring Cards**

These pocket-size laminated cards can be carried in the field as handy references for identifying major insect and mite pests and several important diseases in deciduous tree fruits and nuts. Each pest is identified by a description and close-up photographs of important life stages. Cards identifying important natural enemies are also included. Contains 114 color photos on 32 cards. References are provided to the appropriate UC IPM Pest Management Guidelines and IPM Manuals for management information. Pub. no. 3426. Price: \$15.00. The order form can be found on the Web at <http://www.ipm.ucdavis.edu/PDF/PMG/pestcards.pdf>, or see the entire catalog at <http://anrcatalog.ucdavis.edu>, or call (800) 994-8849.

### **IPM for Walnuts, Third Edition**

This new edition is completely revised and is 40% longer than the previous edition. It includes identification tips, monitoring methods, treatment thresholds, biological controls, and other management techniques. It has 65 more photos, for a total of 215 photos, and is printed in larger format with improved color. An additional 24 pest problems are discussed and illustrated for a total of more than 90. The section on codling moth has been completely rewritten to include information on pheromone confusion, release of the Trichogramma egg parasite, and the new kairomone lure that attracts both male and female moths. Pub. no. 3270. Price: \$30.00. 136 pp. Order online at <http://anrcatalog.ucdavis.edu> or call (800) 994-8849.

### **COMING SOON!**

### **Production & Handling of California Pears**

Watch for this forthcoming UC publication, which will provide detailed information on horticultural and pest management practices, economics, marketing, and postharvest handling. It should be published in 2004.

## UPCOMING MEETINGS

### **Organic Winegrowing Short Course**

This intensive two-day course on organic winegrowing will be offered on November 17-18 in Hopland, CA, at the Brutocoa Cellars Schoolhouse Plaza. The \$225 fee for the course includes registration, course materials, breakfast and lunch each day, and a reception and wine tasting on the first evening. Space is limited. For registration information, call Francine Hines at UCCE, (707) 463-4495. For more details about the program content, contact Glenn McGourty, UCCE Mendocino County at (707) 463-4495 or [gtrmcgourty@ucdavis.edu](mailto:gtrmcgourty@ucdavis.edu), or Ann Thrupp, Fetzter's Manager of Organic Development, at (707) 272-1152 or [Ann\\_Thrupp@B-F.com](mailto:Ann_Thrupp@B-F.com).

### **Organic Pear Production Meeting**

This meeting, sponsored by UCCE and the UC Sustainable Agriculture Research & Education Program, is being held in Santa Rosa on Feb. 17, tentatively from 8:30 a.m. to 4:45 p.m. (It is being held in Santa Rosa to try to make it more convenient for growers and PCAs from all districts to attend.) Topics will include organic certification, economics, organically acceptable pest management practices, postharvest considerations, as well as two speaker panels: 1) trends in production and markets, and 2) grower experiences. Watch for more details in the next newsletter, or in December visit our web site: <http://cesacramento.ucdavis.edu>.

### **2004 Pear Research Meeting**

Mark your calendars for the 2004 Pear Research Meeting, which will be held on Wed., Feb. 18, 2004 at the Courtland Auditorium. More details to follow in the next newsletter.



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