



UNIVERSITY OF CALIFORNIA~SUTTER/YUBA COUNTIES
COOPERATIVE EXTENSION
142A Garden Highway, Yuba City, California 95991
(530) 822-7515 ~ Fax (530) 673-5367



ORCHARD NOTES

FEBRUARY 2000

SUTTER, YUBA & COLUSA WALNUT DAY

February 22, 2000, 8:30 a.m. to 12:15 p.m.

Veterans Building, 1425 Circle Drive, Yuba City, CA

8:00 a.m. Coffee & donuts
Courtesy of John Taylor Fertilizer

AGENDA

GLOBAL OUTLOOK FOR CALIFORNIA WALNUTS

MODERATOR: *JANINE HASEY*

8:30 a.m. International Walnut Research and the French Walnut Industry
John Edstrom, UCCE Farm Advisor, Colusa County
Janine Hasey, UCCE Farm Advisor, Sutter/Yuba Counties

Walnuts in China - Threat or Opportunity?
Competition from China, Gerald Barton, Walnut Marketing Committee, WMB
Opportunities in China, Dr. Jerry Siebert, UC Ag. Economist, Berkeley

Walnut Economics
Dr. Jerry Siebert, UC Ag. Economist, Berkeley

BREAK

Walnut Marketing Challenges - 2000 and Beyond
Dennis Balint, CEO California Walnut Commission

CROWN GALL DISEASE

MODERATOR: *JOHN EDSTRON*

Crown Gall in Tree Crops - New UCCE Video

Crown Gall - New Research Findings
Dr. Lynn Epstein, Plant Pathologist, UC Davis

12:15 p.m. ADJOURN

Program developed by Janine Hasey and John Edstrom, University of California Cooperative Extension

PCA & CCA CREDITS PENDING

FUNGICIDE EFFICACY & TREATMENT TIMING TABLES

Fungicide efficacy and treatment timing tables for Apple and Pear and Peach and Nectarine are attached for your reference. They will help answer your questions as to how effective a particular fungicide is for a disease and when to apply it. There are also guidelines for other crops and a table on fungicide properties that provides information that should be helpful in planning your fungicide program to manage resistance available from our office. They were produced by U.C. Plant Pathologists, Beth Teviotdale, Jim Adaskaveg, Themis Michailides and Doug Gubler.

FEBRUARY REMINDERS

™Peaches: Hand Oriental Fruit Moth (OFM) pheromone traps around the third week of February to detect the first moth. Set biofix to calculate degree-days. If using mating disruption, hang OFM pheromone dispensers at first moth. We have a handout summarizing the various pheromone products available for mating disruption of OFM. Please pick one up or call if you have any questions on how to use pheromone dispensers or sprays and how effective mating disruption has been in controlling these pests locally.

Bacillus thuringiensis (Bt) sprays should be applied with bloom time fungicide sprays to control overwintered PTB. The first Bt spray is applied when 20-40% of the overwintering PTB larvae have emerged from the hibernacula. The second application is made at 80-100% emergence. These two Bt sprays have provided effective control for overwintered PTB in cling peaches locally as an alternative to a dormant insecticide application.

Success is another material for PTB control that helps preserve beneficial insects. It will receive registration in peaches March 1, 2000. This will provide another tool to combat PTB that can be applied as a dormant, bloom or in season spray.

™Walnuts: Prune young walnut trees in late February and March after the potential for winter freezing has past. Control navel orangeworm by removing mummy nuts and mowing them and cleaning up all trash around hullers. Check prunings for the presence of scale.

™Kiwifruit: Apply dormant spray after pruning and before budbreak to control scale.

CHEMICAL THINNING - PEACHES

Controlling crop load can be achieved through dormant pruning and fruit thinning. Fruit thinning is a very costly cultural operation in growing peaches. Labor is more expensive and often less available than in the past. As a goal to reduce hand thinning costs, we did studies for several years using various chemical thinning agents. One of these materials that is applied at bloom is the surfactant Entry, which is now registered for that purpose. There are many factors to consider when using this material including variety, stage of bloom, rate and volume the material is applied in. I have held field meetings the past two years so growers could see the results of chemical thinning. We are again looking for growers who are interested in using Entry in small demonstration blocks so they can get experience with it. If you are interested in cooperating with us or want specific information on using Entry, please call me by the third week in February at 822-7515.

JANINE HASEY

U.C. Farm Advisor

e-mail address: jkhasey@ucdavis.edu

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PEACH AND NECTARINE – FUNGICIDE EFFICACY

Fungicide	Resistance Risk	Brown Rot ^a		Powdery Mildew ^a	Scab	Rust	Leaf Curl	Shot Hole
		Blossom	Fruit					
Benlate ^b	high	++++	++++	+++	+++	+	----	----
Break EC	high	++++	++++	+++	----	+++	----	+/-
Elite	high	++++	++++	+++	++	+++	----	+/-
Indar	high	++++	++++	?	+++	?	----	+/-
Rovral ^c +oil ^d	low	++++	++++	+	+	+++	----	++ ^h
Topsin ^b	high	++++	++++	+++	+++	+	----	----
Abound	high	+++	----	+++	++++	+++	----	++
Rally	high	+++	+++	+++	----	----	----	----
Ronilan	low	+++	+++	----	----	----	----	----
Rovral ^c	low	+++	+++	----	----	----	----	----
Vanguard	high	+++	----	+++	?	?	----	----
Bravo ^{e,f}	low	++	++	----	+++	+++	+++	+++
Captan ^f	low	++	++	----	+++	----	----	+++ ^h
Funginex ^g	high	++	++	++	----	+	+	----
Copper	low	+/-	----	----	----	----	+++	+++
Sulfur	low	+/-	+/-	+++	+++	+++	----	----
Ziram	low	+/-	----	----	+++	----	+++	+++

Rating: ++++ = excellent and consistent, +++ = good and reliable, ++ = moderate and variable, + = limited and/or erratic, +/- = minimal and often ineffective, ---- = ineffective, and ? = insufficient data or unknown.

- a. Do not use the same fungicide or fungicides with similar chemistry and high resistance risk more than twice in one year.
- b. Strains of *Monilinia fructicola* resistant to Benlate and Topsin are present in some peach and nectarine orchards.
- c. Blossom blight only; not registered for pre-harvest use.
- d. Oil is a ‘light’ summer oil, 1-2% volume/volume.
- e. Do not use after shuck split.
- f. Do not use in combination with or shortly before or after oil treatment.
- g. Label canceled; other companies may produce.
- h. Not effective if used as dormant treatment.

APPLE AND PEAR - FUNGICIDE EFFICACY

Fungicide	Resistance risk ^a	Scab		Powdery Mildew (apple only)
		Protectant	Eradicant	
Bayleton	high	----	----	+++
Benlate	high	+++	+++	+++
Funginex ^b	high	+++	+++	++
Procure ^c	high	++++	++++	++++
Rally ^c	high	++++	++++	++++
Rubigan ^c	high	++++	++++	++++
Topsin M	high	+++	+++	+++
Vanguard	high	+++	+++	+++
Captan ^d	low	++	----	----
Maneb ^d	low	++	----	----
Thiram ^d	low	++	----	----
Ziram ^d	low	++	----	----
Copper	low	++ ^e	----	----
Lime sulfur ^f	low	-----	++++ ^f	+++ ^g
Sulfur	low	++	----	+++

Rating: +++++ = excellent and consistent, +++ = good and reliable, ++ = moderate and variable, + = limited and/or erratic, +/- = minimal and often ineffective, ---- = ineffective, and ? = insufficient data or unknown.

- a. Do not use the same fungicide or fungicides with similar chemistry and high resistance risk more than twice during a season.
- b. Labeled on apple but not on pear.
- c. On pears, use only **before** white bud and **after** full bloom.
- d. These are important components of resistance management programs.
- e. Copper, though effective for scab control, causes fruit scarring.
- f. “Burns out” scab twig lesions when applied at delayed dormant and disrupts pseudothecial development when applied to leaves in fall. **CAUTION: LIME SULFUR IS INCOMPATIBLE WITH MOST OTHER PESTICIDES. CHECK BEFORE USE.**
- g. In-season application eradicates powdery mildew.

PEACH AND NECTARINE - TREATMENT TIMING

Note: Not all indicated timings may be necessary for disease control

Disease	Dormant	Bloom		3-6 weeks post bloom	Preharvest ^a	
		20-40%	80-100%		3 weeks	1 week
Brown rot	----	++	+++	+ ^b	++	+++
Powdery mildew	----	++	++	++	----	----
Leaf curl ^c	+++	----	----	----	----	----
Rust	+ ^d	----	----	+++	++	----
Scab	----		++	+++	----	----
Shot hole ^e	+++	----	----	++	----	----

Rating: +++ = most effective, ++ = moderately effective, + = least effective, and ---- = ineffective.

- a. Timing not exact; weather conditions determine need for treatment.
- b. Application at about 4 weeks post bloom may reduce pre-harvest brown rot.
- c. Treatment should be made before bud break and preferably before bud swell.
- d. Dormant treatment with liquid lime sulfur.
- e. Fall application before winter rains begin is the most important; additional spring sprays are seldom required but may be needed to protect the fruit if heavy persistent spring rains occur.

APPLE AND PEAR - TREATMENT TIMING

Note: Not all indicated timings may be necessary for disease control.

Disease	Fall	Delayed dormant	Green tip	Pink	Spring
Scab ^a	++ ^b	++ ^b	+++	+++	+++
Powdery mildew ^b	----	----	----	++++	+++

Rating: +++ = most effective, ++ = moderately effective, + = least effective, and ---- = ineffective.

- a. Protection of early tissue is important. Additional applications should be made according to infection periods as determined by the Mills table.
- b. Disruption of pseudothecial development (fall) and inactivation of overwintering twig lesions (delayed dormant) occurs; effects of these treatments on disease control uncertain.
- c. Early application is most effective; added treatments are made if mildew continues.

COOPERATIVE EXTENSION
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Oakland California 94612-3560

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SUTTER, YUBA & COLUSA
WALNUT DAY
FEBRUARY 22, 2000
8:30 A.M. TO 12:15 P.M.
VETERANS BUILDING
1425 CIRCLE DRIVE, YUBA CITY