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ORCHARD NOTES

February 2001

SUTTER/YUBA/COLUSA WALNUT DAY

February 13, 2001, 9:00 a.m. to 12:00 Noon
Veterans Hall, 1425 Circle Drive, Yuba City, CA

8:30 a.m. Sign-in, Coffee and Donuts
Refreshments courtesy of Growers Ag Service

Agenda

PEST MANAGEMENT

Moderator: Janine Hasey

9:00 a.m. Field Treatment of Crown Gall and its Effect on Tree Growth and Productivity
Bill Olson, UC Farm Advisor, Butte County

Xanthocast - A new tool for managing walnut blight
Jim Adaskaveg, Plant Pathologist, UC Riverside

Replanting Walnuts without Methyl Bromide
Mike McKenry, Extension Nematologist, UC Kearney Agricultural Center

Break

Moderator: John Edstrom

Your Statewide Walnut Research Program
Janine Hasey, UC Farm Advisor, Sutter/Yuba Counties

MARKETING

Domestic Walnut Marketing - Situation and Outlook
Chuck Crain, President, Crain Nut Company

California Walnut Commission and Walnut Marketing Board Activities
Dennis Balint, CEO, Walnut Marketing Board
Susan Haenny, Marketing Director, Walnut Commissioner

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

1.5 hours of PCA & Private Applicator credits pending
1.75 CCA credits pending

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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: Hang Oriental Fruit Moth (OFM) pheromone traps by the third week of February to detect the first moth. The biofix was February 23 in 2000 and February 24 in 1999. Sometimes it occurs in early March. Set biofix to calculate degree-days. If using mating disruption apply OFM pheromone dispensers at first moth. To reduce the number of in season pyrethroid sprays, consider OFM mating disruption at biofix this year. Pheromone dispensers last for 90 days eliminating the need for the late May or Early June spray. Please 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.

Where no dormant insecticide was used, *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 can be applied as a dormant or bloom spray.

WALNUTS: Prune young walnut trees in late February and March after the potential for winter freezing has

past. Check prunings for the presence of scale. Control navel orangeworm by removing mummy nuts and mowing them and cleaning up all trash around hullers.

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 and have had demonstration blocks for several years using various chemical thinning agents. One of these materials that is applied at bloom is the surfactant Entry. There are many factors to consider when using this material, including variety, stage of bloom, rate and volume the material is applied in. Environmental conditions most likely play a role in material response also. Most of our favorable results have been on Loadel. If you are interested in trying chemical thinning and want specific information on using Entry, please call me before bloom at (530) 822-7515. We recommend trying it on a small block with an adjacent comparison hand thinning block.

Janine Hasey
UC Farm Advisor
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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	+++	+++	+++
Captain ^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.

- Do not use the same fungicide or fungicides with similar chemistry and high resistance risk more than twice during a season
- Labeled on apple but not on pear.
- On pear, use only **before** white bud and **after** full bloom.
- These are important components of resistance management programs.
- Copper, though effective for scab control, causes fruit scarring.
- “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.
- In-season application eradicates powdery mildew.

APPLE AND PEAR - TREATMENT TIMING

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

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

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

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

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	++++	++++	+++	+++	+	----	----
Vanguard	high	++++	----	ND	?	?	----	+
Rally	high	+++	+++	+++	----	----	----	----
Rovral ^c	low	+++	+++	----	----	----	----	----
Abound	high	++	----	?	++++	+++	----	++
Bravo ^{e,f}	low	++	----	----	+++	+	+++	+++
Captan ^f	low	++	++	----	+++	----	----	+++ ^g
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, ND = labeled, no data.

- 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. Not effective if used as dormant treatment.

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.