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THE SCOOP

on fruits and nuts in Stanislaus County

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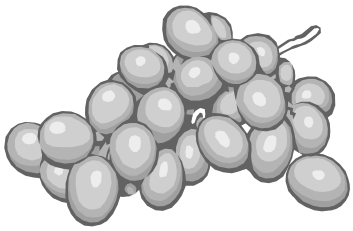
by Roger Duncan

Pomology and Viticulture Advisor



Fungicide Resistance Problems in Almond and Other Stone Fruits

By Roger Duncan and Jim Adaskaveg

Several important diseases of almond and other stone fruits are developing resistance to our fungicides. Almond scab began showing widespread resistance to the strobilurin class of fungicides (e.g., Abound®, Flint®, Gem®) in 2006. Scab is also developing resistance to Pristine® which is a combination of a strobilurin fungicide and Boscalid® (Boscalid® is not effective against scab).

Alternaria leaf spot, a real problem in certain areas of Kern, Butte, Glenn and Tehama counties, developed resistance to the strobilurin class of fungicides beginning in 2003. This disease is now also showing resistance to carboxamide fungicides (e.g., Boscalid®) in many locations. This means that Alternaria is now showing resistance to Pristine®. In 2007 we had our first confirmation that brown rot is becoming resistant to anilinopyrimidine fungicides (Scala®, Vangard®) in prunes. Resistance most likely developed due to overuse and/or improper use of these materials.

Be smart when choosing your fungicide program. Use a particular fungicide only once per year. In fact, use a particular CLASS of fungicides only once per year. Study the charts on the next pages and apply the fungicides which are most appropriate for the bloom/disease period. For instance, a pink bud or early bloom spray is primarily a brown rot spray. There are sixteen registered fungicides listed as very good or excellent against brown rot on almond. Not all of them work as well on later season diseases (jacket rot, shot hole, anthracnose, scab, rust, etc.). It doesn't make sense to use a broad spectrum material (like Pristine® or Adament®) for a brown rot spray and then be unable to use it later in the season when fungicide choices are more limited.

How does resistance to a fungicide (or insecticide, or antibiotic, etc.) develop? If a grower continually uses the same class of materials, he/she will kill most of the susceptible individuals within a population, but the resistant ones will survive and multiply. Pretty soon the whole population is resistant to this chemical class. Poor spray coverage will increase the rate of resistance development.

Growers need to follow the important resistance management strategies listed below:

- If possible, begin the season with a multi-site mode of action fungicide. Many popular fungicides control a fungus by acting only on one site of a particular biochemical pathway. The potential for resistance development to these types of fungicides is high. Multiple-site mode of action fungicides kill an organism in more than one way. Resistance potential is low for these fungicides.
- Use fungicides from the same "class" only once per season if possible, especially fungicides with a single-site mode of action. Fungicides within the same class have the same mode of action. If an organism becomes resistant to a fungicide, it is also resistant to all other fungicides in the same class (example: Rally,® Laredo,® Indar,® Orbit,® Quash,® and Elite®). Fungicide classes are identified by a FRAC (Fungicide Resistance Action Committee) number. Do not use fungicides with the same FRAC number more than once in the same season (see table on page 4).
- Use label rates (not below label rates). For strobilurins (examples include Abound®, Flint® and Gem®), use upper label rates.
- Make sure you have good spray coverage.
  This includes:
  - ☑ Do not use alternate row spray applications
  - ☑ Use enough spray volume to achieve good coverage
  - ☑ Drive slowly enough to achieve good spray coverage
  - ☑ Do not use airplane applications, especially at full canopy

The table on the next page lists the fungicides labeled for use on almonds, other stone fruits, and grapes, their modes of action, their FRAC number and resistance potential. Please study this list, as well as the table on the following page, before planning your fungicide program this year. Almond growers may choose to hold off on using materials like Pristine®, Adament® and Abound® at bloom so they can be used later in the season for diseases like scab, anthracnose, and Alternaria leaf spot if necessary. Please note that rotating between Pristine® and Abound,® Flint® or Gem® is not a good resistance strategy (they all share FRAC number 11). Also note that Adament®, Elite®, Indar,® Inspire Super,® Orbit,® Rally,® Laredo,® and Quash® share the same FRAC number (3), meaning only one of these fungicides should be used in a season.

We are fortunate to have several very effective fungicides registered for use in almonds, other stone fruits, and grapes. There is no need to use the same fungicide more than once in the same season. If resistance develops against a fungicide class, this class may be lost for ever as a management tool. Generally, it takes the chemical industry and researchers years to develop new products with unique modes of action. If we all follow the resistance management guidelines, we will be able to maintain the effectiveness of the currently registered fungicides for many seasons to come.

General Properties and Efficacy of Registered and Experimental Fungicides Used on Deciduous Tree Fruit, Nut, Strawberry, and Vine Crops in California

Trade name	Active Ingredient	Class	Systemic action	Mode of action (FRAC number)[1]	Resistance potential
various	copper	inorganic	No	Multi-site (M1)	Low
various	sulfur	inorganic	No	Multi-site (M2)	Low
Aliette	fosetyl-aluminum	phosphonate	Yes	Multi-site (33)	Low
Dithane/Manzate	mancozeb	carbamate (EBDC)	No	Multi-site (M3)	Low
Maneb/Manex	maneb	carbamate (EBDC)	No	Multi-site (M3)	Low
Thiram Ziram	thiram ziram	carbamate (DMDC) carbamate (DMDC)	No No	Multi-site (M3) Multi-site (M3)	Low Low
Rovral/Iprodione	iprodione	dicarboximide	Yes	Multi-site (2)	Low
Scala/Penbotec	pyrimethanil	anilinopyrimidine (AP)	Slight	Single-site (9)	High
Vangard	cyprodinil	AP	Slight	Single-site (9)	High
Botran/Allisan	dichloran	aromatic hydrocarbon	Slight	Single-site (14)	Medium
Bravo/Echo/ Chlorothalonil	chlorothalonil	chloronitrile	No	Multi-site (M5)	Low
Benlate	benomyl	benzimidazole	Yes	Single-site (1)	Very high
Mertect	thiabendazole	benzimidazole	Yes	Single-site (1)	Very high
Topsin-M/T-Methyl	thiophanate-methyl	benzimidazole	Yes	Single-site (1)	Very high
Endura	boscalid	carboxamide	Yes?	Single-site (7)	High
Syllit	dodine	guanidine	Yes	Few - multi-site (M7)	Medium/High
Elevate/Judge	fenhexamid	hydroxyanilide	No	Single-site (17)	High
Ridomil Gold	mefenoxam	phenylamide	Yes	Single-site (4)	High
Captan	captan	phthalamide	No	Multi-site (M4)	Low
Captevate	captan/fenhexamid	phthalimide/ hydroxyanilide	No	Multi-site (M4)/ Single-site (17)	Low
Quintec	quinoxyfen	quinoline	No	Single-site (13)	Medium
Scholar	fludioxonil	phenylpyrrole	No	Few - multi-site (12)	Medium
Bayleton	triadimefon	DMI-triazole	Yes?	Single-site (3)	High
Elite	tebuconazole	DMI-triazole	Yes?	Single-site (3)	High
Eminent	tetraconazole	DMI-triazole	Yes?	Single-site (3)	High
Funginex	triforine	DMI-piperazine	Yes?	Single-site (3)	High
Indar/Enable	fenbuconazole	DMI-triazole	Yes?	Single-site (3)	High
Orbit/Bumper/ Mentor	propiconazole	DMI-triazole	Yes?	Single-site (3)	High
Procure	triflumizole	DMI-imidazole	Yes?	Single-site (3)	High
Rally/Laredo	myclobutanil	DMI-triazole	Yes?	Single-site (3)	High
Rubigan	fenarimol	DMI-pyrimidine	Yes?	Single-site (3)	High
Inspire	difenoconazole	DMI-triazole	Yes?	Single-site (3)	High
Abound	azoxystrobin	QoI	Yes?	Single-site (11)	High
Cabrio	pyraclostrobin	QoI	Yes?	Single-site (11)	High
Flint/Gem	trifloxystrobin	QoI	Yes?	Single-site (11)	High
Sovran	kresoxim-methyl	QoI	Yes?	Single-site (11)	High
Pristine	pyraclostrobin/ boscalid	QoI/ carboxamide	Yes? Yes?	Single-site (11)/ Single-Site (7)	Medium
Switch	fludioxonil / cyprodinil	phenylpyrrole/ AP	No /Slight	Single-site (12)/ Single-site (9)	Medium

[1]Group numbers are assigned by the Fungicide Resistance Action Committee (FRAC) according to different modes of actions. Fungicides with a different group number are suitable to alternate in a resistance management program. For more information, see http://www.frac.info/.

ALMOND—FUNGICIDE EFFICACY 2009

Fungicide	Resistance risk (FRAC)[1]	Brown rot	Jacket rot	Anthrac-nose	Shot hole	Scab[2]	Rust[3]	Leaf blight	Alternaria leaf spot [2]	PM-like[4]	Silver leaf
Adament	high (3/11)	++++	++	++++	++	+++	+++	ND	++	ND	----
Benlate[5]	high (1)	++++	++++	----	----	+++	+	++++[6]	----	----	----
Distinguish	high (9/11)	++++	+++	++++	++	ND	ND	ND	ND	ND	----
Elite	high (3)	++++	+/-	+++	++	++	+++	ND	+	ND	----
Indar	high (3)	++++	+/-	+++	++	++	+++	ND	+	ND	----
Inspire*	high (3)	++++	+	ND	++	+++	ND	ND	+++	ND	----
Inspire Super[16]	high (3/9)	++++	++	ND	++	+++	ND	ND	+++	ND	----
Orbit	high (3)	++++	+/-	++++	++	++	+++	ND	++	ND	----
Pristine[3]	medium (7/11) [7]	++++	++++	++++	++++	++++	+++	ND	+++	+++	----
Quash	high (3)	++++	++	++++	+++	ND	ND	ND	++	ND	----
Rovral + oil[8]	low (2)	++++	++++	----	+++	+/-	++	ND	+++[9]	ND	----
Scala	high (9) [7]	++++	++++	ND	++	----	ND	ND	NR	----	----
Topsin-M/T-Methyl /Thiophanate-Methyl[5]	high (1) [7]	++++	++++	----	----	+++[8]	+	+++[6]	----	++	----
Vangard	high (9) [7]	++++	++++	ND	++	----	ND	ND	+[9]	----	----
Abound	high (11) [7]	+++	----	++++	+++	++++	+++	+++	+++[10]	+++	----
Elevate	high (17) [7]	+++	++++	----	+	ND	ND	ND	ND	ND	----
Gem	high (11) [7]	+++	----	++++	+++	++++	+++	+++	+++[10]	+++	----
Laredo	high (3)	+++	----	++	++	----	+	+++	----	+++	----
Rovral/Iprodione/ Nevado	low (2)	+++	+++	----	+++	----	----	ND	++[9]	----	----
Bravo/Chloro-thalonil/ Echo /Equus[11,12]	low (M5)	++	NR	+++	+++	+++	NR	NR	NR	----	----
Captan[12]	low (M4)	++	++	+++	+++	++	----	+++[6]	+	----	----
Captevate	low (M4/17)	+++	+++	+++	+++	+++	----	+++	+	----	----
Maneb	low (M3)	++	+	++	++	++	+++	++	----	----	----
Ph-D/Endorse[16]	medium (19)	++	++	----	++	----	ND	ND	+++	----	----
Rally[13]	high (3)	++	----	++	+/-	----	+	+++	----	+++	----
Ziram	low (M3)	++	+	+++	+++	+++	----	++	+	----	----
Copper[14]	low (M1)	+/-	+/-	----	+-	+[15]	----	----	ND	----	ND
Copper + oil[14]	low (M1)	ND	ND	----	+	+++[15]	----	----	ND	----	ND
Lime sulfur[12]	low (M2)	+/-	NR	----	+/-	++[15]	NR	NR	NR	----	NR
Sulfur[12]	low (M2)	+/-	+/-	----	----	++	++	----	----	+++	----
PlantShield	low	----	----	----	----	----	----	----	----	----	+++[16]

Rating: ++++ = excellent and consistent, +++ = good and reliable, ++ = moderate and variable, + = limited and/or erratic, +/- = minimal and often ineffective, ---- = ineffective, NR = not registered, and ND = no data

* Not registered in California

[1] Group numbers are assigned by the Fungicide Resistance Action Committee (FRAC) according to different modes of actions (for more information, see http://www.frac.info/). Fungicides with a different group number are suitable to alternate in a resistance management program. In California, make no more than one application of fungicides with mode of action Group numbers 1, 4, 9, 11, or 17 before rotating to a fungicide with a different mode of action Group number; for fungicides with other Group numbers, make no more than two consecutive applications before rotating to fungicide with a different mode of action Group number.

[2] Field resistance of *Alternaria* sp. and *Cladosporium carpophilum* to strobilurin and carboxamide fungicides has been detected in almond orchards.

[3] Of the materials listed, only sulfur, Abound, and Flint are registered for use in late spring and early summer when treatment is recommended.

[4] PM-like refers to a powdery mildew-like disease on almond fruit that is managed with fungicides with activity against powdery mildew fungi.

[5] Benlate label withdrawn. Strains of the brown rot fungi *Monilinia laxa* and *M. fructicola* resistant to Benlate, Topsin-M, and T-Methyl have been found in some California almond orchards. Resistant strains of the jacket rot fungus, *Botrytis cinerea* and powdery mildew fungi, have been reported in California on crops other than almond and stone fruits and may have the potential to develop in almonds with overuse of fungicides with similar chemistry. Resistant strains of the scab fungus, *Cladosporium carpophilum*, have been found in California.

[6] Excellent control obtained with combination of Benlate and Captan; activity of Topsin-M and T-Methyl should be similar to that of Benlate.

[7] To reduce the risk of resistance development start treatments with a fungicide with a multi-site mode of action; rotate or mix fungicides with different mode of action FRAC numbers for subsequent applications, use labeled rates (preferably the upper range), and limit the total number of applications/season.

[8] Oil is a "light" summer oil, 1-2% volume/volume.

[9] Not registered for use later than 5 weeks after petal fall.

[10] Efficacy reduced at high temperatures and relative humidity; experimental for Alternaria.

[11] Bravo Ultrex, Bravo WeatherStik, Echo, Echo Ultimate, and Chlorothalonil are currently registered.

[12] Do not use in combination with or shortly before or after oil treatment.

[13] Efficacy is better in concentrate (80-100 gal/acre) than in dilute sprays.

[14] The low rates necessary to avoid phytotoxicity in spring reduce the efficacy of copper.

[15] "Burns out" scab twig lesions when applied at delayed dormant.

[16] Registration pending (in California).

ALMOND—TREATMENT TIMING

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

		Bloom			Spring[1]		Summer	
Disease	Dormant	Pink bud	Full bloom	Petal fall	2 weeks	5 weeks	May	June
Alternaria	----	----	----	----	----	+++	+++	+++
Anthracnose[2]	----	++	+++	+++	+++	+++	+++	++
Brown rot	----	++	+++	+	----	----	----	----
Green fruit rot	----	----	+++	----	----	----	----	----
Leaf blight	----	----	+++	++	+	----	----	----
Scab[3]	++	---	---	++	+++	+++	+	---
Shot hole[4]	+[5]	+	++	+++	+++	++	----	----
Rust	----	----	----	----	----	+++	+++	+[6]

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

[1] Two and five weeks after petal fall are general timings to represent early postbloom and the latest time that most fungicides can be applied. The exact timing is not critical but depends on the occurrence of rainfall.

[2] If anthracnose was damaging in previous years and temperatures are moderate (63°F or higher) during bloom, make the first application at pink bud. Otherwise, treatment can begin at or shortly after petal fall. In all cases, application should be repeated at 7- to 10-day intervals when rains occur during periods of moderate temperatures. Treatment should, if possible, precede any late spring and early summer rains. Rotate fungicides, using different fungicide classes, as a resistance management strategy.

[3] Early treatments (during bloom) have minimal effect on scab; the 5-week treatment usually is most effective. Treatments after 5 weeks are useful in northern areas where late spring and early summer rains occur. Dormant treatment with liquid lime sulfur improves efficacy of spring control programs.

[4] If pathogen spores were found during fall leaf monitoring, apply a shot hole fungicide during bloom, preferably at petal fall or when young leaves first appear. Re-apply when spores are found on new leaves or if heavy, persistent spring rains occur. If pathogen spores were not present the previous fall, shot hole control may be delayed until spores are seen on new leaves in spring.

[5] Dormant copper treatment seldom reduces shot hole infection but may be useful in severely affected orchards and must be followed by a good spring program.

[6] Treatment in June is important only if late spring and early summer rains occur.

PEACH AND NECTARINE—TREATMENT TIMING

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

		Bloom		3-6 weeks	Preharvest[1]	
Disease	Dormant	20-40%	80-100%	postbloom	3 weeks	1 week
Brown rot	----	++	+++	+	++	+++
Powdery mildew	----/ND	++	+++	+++[2]	----	----
Leaf curl[3]	+++	+	----	----	----	----
Rust	+[4]	----	----	+++	++	----
Scab	----	+	++	+++	----	----
Shot hole[5]	+++	+	+	++	----	----

Rating: +++ = most effective, ++ = moderately effective, + = least effective, ---- = ineffective, and ND = no data but needs to be evaluated.

[1] Timing not exact; weather conditions determine need for treatment.

[2] Apply until pit hardening.

[3] Treatment should be made before bud break and preferably before bud swell.

[4] Dormant treatment with liquid lime sulfur.

[5] 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.

PEACH AND NECTARINE—FUNGICIDE EFFICACY 2009

Fungicide	Resistance Risk (FRAC#)[1]	Brown rot[2] Blossom	Brown rot[2] Fruit	Powdery mildew[2]	Scab	Rust	Leaf curl	Shot hole
Adament	medium (3/11)							
Benlate[3]	high (1)	++++	++++	+++	+++	+	----	----
Distinguish*	medium (9/11)	++++	+++	++	+++	+++	----	++
Elite/Orius/ Tebuzol	high (3)	++++	++++	+++	++	+++	----	+
Indar/Enable[4]	high (3)	++++	++++	+++	+++	ND	----	+/-
Orbit (Bumper)	high (3)	++++	++++	+++	----	+++	----	+/-
Pristine	medium (7/11)[5]	++++	++++	+++	+++	ND	ND	++++
Rovral[6]+ oil[7]	low (2)	++++	NR	+	+	++	----	++
Scala[8]	high (9)[5]	++++	+++[8]	ND	ND	ND	----	+
Topsin-M /T-Methyl /Thiophante-Methyl[3]	high (1)[5]	++++	++++	+++	+++	+	----	----
Vangard	high (9)[5]	++++	+++[8]	ND	ND	ND	----	+
Elevate	high (17)[5]	+++	+++	ND	ND	ND	ND	ND
Rally	high (3)	+++	+++	++++	----	----	----	----
Rovral/Iprodione / Nevado[6]	low (2)	+++	NR	----	----	----	----	----
Abound	high (11)[5]	++	+	++	++++	+++	----	++
Botran	medium (14)	++	+	ND	ND	ND	ND	ND
Bravo/ Chlorothalonil / Echo/Equus[9,10]	low (M5)	++	----	----	+++	+	+++	+++
Captan[10]	low (M4)	++	++	----	+++	----	----	+++[11]
Gem	high (11)[5]	++	+	++	++++	+++	----	++
Syllit	medium (M7)	ND	----	-----	ND	----	+	----
Copper	low (M1)	+/-	----	----	----	----	+++	+++
Sulfur[10]	low (M2)	+/-	+/-	+++	+++	+++	----	----
Ziram	low (M3)	+/-	----	----	+++	----	++++	+++

Rating: ++++ = excellent and consistent, +++ = good and reliable, ++ = moderate and variable, + = limited and/or erratic, +/- = minimal and often ineffective, ---- = ineffective, ND = no data, and NR = not registered

* Registration pending.

[1] Group numbers are assigned by the Fungicide Resistance Action Committee (FRAC) according to different modes of actions (for more information, see http://www.frac.info/). Fungicides with a different group number are suitable to alternate in a resistance management program. In California, make no more than one application of fungicides with mode of action Group numbers 1, 4, 9, 11, or 17 before rotating to a fungicide with a different mode of action Group number; for fungicides with other Group numbers, make no more than two consecutive applications before rotating to fungicide with a different mode of action Group number.

[2] Do not use fungicides with the same FRAC number and high resistance risk more than twice in one year.

[3] Benlate label withdrawn. Strains of *Monilinia fructicola* resistant to Benlate, Topsin-M, and T-Methyl are present in some peach and nectarine orchards. Resistant strains of the jacket rot fungus, *Botrytis cinerea*, and powdery mildew fungi have been reported in California on crops other than almond and stone fruits and may have the potential to develop in peach and nectarine with overuse of fungicides with similar chemistry.

[4] Indar is registered; registration for Enable pending in California.

[5] To reduce the risk of resistance development start treatments with a fungicide with a multi-site mode of action; rotate or mix fungicides with different mode of action FRAC numbers for subsequent applications, use labeled rates (preferably the upper range), and limit the total number of applications/season.

[6] Blossom blight only; not registered for use after petal fall.

[7] Oil is a "light" summer oil, 1-2% volume/volume.

[8] High summer temperatures and relative humidity reduce efficacy.

[9] Do not use after jacket (shuck) split.

[10] Do not use in combination with or shortly before or after oil treatment.

[11] Not effective if used as a dormant treatment.

Chilling Hours

Apparently the local weather gods didn't read the newspaper about global warming. According to our local CIMIS weather stations, we have accumulated more chilling hours this winter than any year in the recent past. Not only have we accumulated a large number of hours (over 1400 in Denair), but most of them occurred in the critical December and early January period. This means almond pollinator varieties should bloom "normally" with good overlap of Carmel and Nonpareil. The speed of bloom progression will depend on the weather during bloom. Peach bloom should be compact which means that fruit size may be consistent at thinning time.

Number of Hours Below 45^{0}F between November 1, 2008 and February 10, 2009, according to four CIMIS weather stations in Stanislaus County.

	2008-09	*2007-08*	*2006-07*	*2005-06*	*2004-05*	*2003-04*	*2002-03*	*2001-02*
Denair	1403	1215	1077	790	996	874	906	--
Modesto	1160	1102	1084	804	1020	839	941	923
Patterson	890	843	852	553	945	767	742	884
Oakdale	1037	1033	1025	740	--	--	--	--

Supervisory Training Seminar
(Spanish)

Stanislaus County Agricultural Center
3800 Cornucopia Way, Rooms H & I, Modesto
Thursday, February 26, 2009, from 1:30 – 5 PM.

Who should attend: this seminar is designed for new as well as experienced Spanish-speaking farm supervisors, including foremen, herd managers, and crew leaders. Attendance limited to the first 42 people who register.

Topics to be addressed: Through active participation, including role-plays and cases, we will cover three vital supervisory skills:

- Avoiding the accommodating syndrome.
- The power of sincere praise.
- Correcting employees so they retain their dignity.

Registration: $16 per person in advance or $26 per person at the door (includes a copy of the book *Labor Management in Agriculture* in Spanish or in English and other materials).

List names of all attendees & mail a check made payable to UC Regents to:

Supervisory Seminar, University of California
c/o Gregory Billikopf
3800 Cornucopia Way # A
Modesto, CA 95358

Questions? Contact Gregory Billikopf via e-mail at gebillikopf@ucdavis.edu or call at (209) 525-6800.

Varietal Winegrape Production Shortcourse

February 24 – 26, 2009 at UC Davis

This year's winegrape production short course, taught by Farm Advisors and campus-based faculty members of the University of California, presents reviews and updates for new and experienced vineyard managers, owners and others seeking an overview of winegrape production practices. Topics include: an overview of the winegrape industry; vine physiology (the cycle of vine growth, photosynthesis and water relations); vineyard establishment (site evaluation, resource conservation, rootstock/cultivar selection, handling planting stock, vine training, and spacing and trellising considerations); vineyard management (crop load management, pruning, irrigation systems and scheduling, monitoring and correction of nutritional problems, grafting and budding, mechanization in the vineyard, vineyard floor management options, and frost protection considerations); and pest management (viruses, mildew and bunch rot, nematodes, and insect pests). **Note: You must be 21 years of age or older to enroll and attend.** Call 1-800-752-0881 or access online registration through our webpage at http://cestanislaus.ucdavis.edu/. Click on the calendar of events and follow the links.

IPM Breakfast Meetings Resume

Old Mill Café 600 9th Street, Modesto, 7:00-8:00 am
Beginning March 4, 2009
1st & 3rd Wednesdays, March-June

Kathy Kelley Anderson and I will hold our integrated pest management breakfast discussions for tree and vine crops again this season beginning March 4. The meetings will be held every first and third Wednesday, March through June, from 7:00 a.m. to 8:00 a.m. **Please note: the location has changed to the Old Mill Café located at 600 9th Street in Modesto**.

The meetings are open to any growers or PCA's of tree and vine crops in the area. The meetings are for casual discussions of current pest management issues occurring in the field. Bring your insect or disease infested samples for identification or show and tell if you like! One hour of continuing education credits are offered at each meeting. Any company who would like to sponsor the $45 cost for offering education credits at each meeting should call Marie at (209) 525-6800.

Wheelchair accessible facilities available. With advance request, efforts will be made to provide accommodations for persons with disabilities.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

CURRENT RESIDENT OR

The Scoop on Fruits & Nuts
In Stanislaus County
February 2009

UNIVERSITY OF CALIFORNIA
COOPERATIVE EXTENSION
3800 Cornucopia Way, Suite A

NONPROFIT ORG.
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