



A QUARTERLY PUBLICATION OF COOPERATIVE EXTENSION

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Some of the 120 participants at the San Joaquin Cooperative Extension 2005 Conservation Tillage Field Day watch the only combine in the state with a Geringhoff header mulch standing corn.

MEET THE NEW FARM ADVISOR...



I would like to introduce myself! I am the new vegetable crops Farm Advisor for San Joaquin County, filling the position previously held by Bob Mullen. I have met some of you at field days and farm visits during the past two months, but to those I have not met, I look forward to meeting you!

I have recently relocated to San Joaquin County from Davis, where I worked for UC in the Plant Pathology Department with Mike Davis and Tom Gordon. There I was involved in the diagnosis of problems in field and vegetable crops from samples submitted from across the state. Among the types of problems we saw were viral, bacterial and fungal diseases, insect injury, nutrient toxicities and deficiencies, and other abiotic disorders. I also conducted research projects on a number of different agricultural crops as well as landscape plants.

Here in this area, we have been seeing some bacterial and fungal disease problems in vegetables

resulting from the rain on the 20th of September and the lack of drying winds in its aftermath. Rain not only provides the moisture conducive to infection by plant pathogens; but heavy rains, such as those that occurred during that brief storm, can also spread bacteria and fungal spores around within fields.

Although my training is primarily in plant pathology, I consider myself a generalist, in that I have interest in a wide range of applied agricultural problems. Please let me know what you feel are the issues your industry faces which field research might address. Also, to bring me up to speed on vegetable production systems in this area, I am very interested in talking to you and in coming out to see your operations. Please feel free to call me at (209) 468-9489.

Brenna J. Aegerter
Farm Advisor

2005 California Small Farm Conference

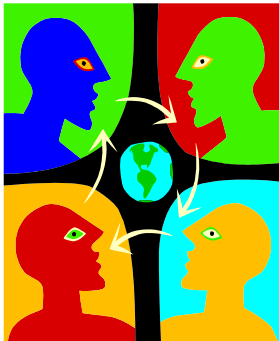
This year's conference theme is "Traditions and Innovations in a Changing World." There will be short courses, tours, tastings and workshops for participants. The conference is from November 13th through the 15th in the Ventura Beach Marriott Hotel. For detailed information and registration information contact www.californiafarmconference.com or call 530-756-8518 ext 38.

Short courses and tours will be offered on Sunday the 13th, prior to the workshops on Monday and Tuesday the 14th and 15th. Short courses include topics such as Small-Scale Berry Production in California, Communications and Strategic Marketing for Farmers' Markets Managers, Computer Basics, Small Farms and Financial Management, and The Future of Food. Tours offered will include Biodiversity and Soil Conservation, Innovation and Exotic Plants, and A Taste of Santa Barbara County. Always very popular at these conferences is the food and wine tasting reception offered Sunday night at the hotel. Some of the finest restaurants and their chefs will use local produce such as avocados, citrus fruits and vegetables to demonstrate seasonal dishes. Other venues such as bakeries, wineries, and olive, juice and cheese producers will offer their products for tasting.

The mainstay of the conference will be the two days of workshop sessions which will include sessions in business operations from starting a farm, financial planning, selling on the web, to cooperatives. A section on community issues is planned with topics such as farming on the urban fringe, developing networks, and cultivating the next generation of farmers. The cultural practices sessions will have information on irrigation, equipment, sustainable production and pest control. A third series is about farmers' markets and has lots of sessions for market managers and new information on regulatory issues. My favorite sessions will be the marketing workshops which feature ideas on new marketing trends, alternate ways for reaching consumers, and collaborative kitchens for finished products.

If you are interested in a few days of learning and networking with successful small farmers, I encourage you to attend this conference.

Benny Fouche
Farm Advisor



WORDS YOU NEED TO KNOW...

exurbia - a residential area outside of a city and beyond suburbia.

As in, "...much of [it] has become an anywhere-place, unloved and unloving, a homogenous exurbia, in which everywhere looks the same as everywhere else."

From the report "Your Countryside, Your Choice" by the Campaign to Protect Rural England

UPCOMING EVENTS

November 8-10

UC Pistachio Production

Short Course

UC Merced (Fresno)

contact: JoAnn Corvella 559-466-6525

November 13-15

Small Farms Conference

Ventura Beach

info at: WWW.californiafarmconference.com

December 6

California Asparagus Day Meeting

Radisson Hotel, Stockton

for info contact: Cherie Watte 209-474-7581

December 7-8

33rd Almond Industry Conference

Modesto Center Plaza

contact: Christy 209-343-3218

December 12-14

California Alfalfa Symposium

Visalia Convention Center

more info at:

<http://alfalfa.ucdavis.edu/+symposium/current/program.html>

December 13

Cling Peach Seminar

Modesto Coop Ext Office

8:30 to noon

info at: 209-385-7403

January 19-21

Ag Expo

San Joaquin Fairgrounds-

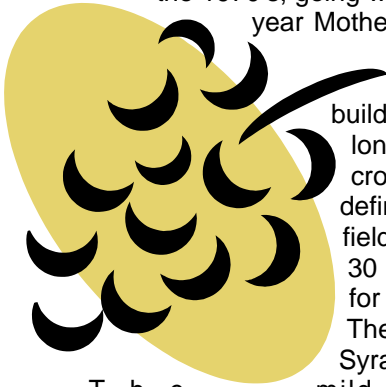
Stockton

for info contact: Tim Quinn 209-547-2960

Crop Digest 2005– Grapes and Almonds

GRAPES

The 2005 season has been a curious mix of extremes. The wet spring was followed by extreme heat in July. This August was the hottest in 25 years, but it was followed by the coolest September in 20 years. Growing conditions and a big crop brought harvest to a long slow finish. In the last few years we have seen harvest begin earlier and finish earlier each year, but the 2005 season is more like harvests experienced in the 1970's, going well into November. This year Mother Nature seems to have accommodated the interest that has been building the last few years in longer "hang time." The crop is a big one by any definition. Yields for most fields and most varieties are 30 to 50% above "normal" for the last three years. There are exceptions, with Syrah the most general one.



The mild spring challenged growers' powdery mildew programs, while the extreme heat in July and August tested most irrigation programs. It is not a "good Zin year." Zinfandel seems to have suffered most from the excessive rains early and the hot weather late. Big canopies and a big crop have caused a lot of headaches for Zinfandel growers as summer bunch rot (sour rot), lower acids and slow maturity have had an effect. There is still some very good quality Zinfandel coming in, but it has been difficult. Some similar problems occurred in Chardonnay, but most other varieties seemed to "weather" this year's conditions a little easier. Syrah has never looked better. In general, quality will be good, but may be variable as in 1979. Prices are slightly up, but there will be unharvested blocks or some "bargain" fruit delivered.

Many Zinfandel vineyards showed poor fruit maturity, excessive potassium deficiency or leaf roll virus symptoms. Most, if not all, of the farm calls I have made in those vineyards indicate it is a temporary condition of the year and the crop load. If you do have specific questions give me a call. A normal potassium program and more normal conditions next year should take care of the "problem."

Increased costs and increased regulations are still driving consolidation of growers and wineries. And unfortunately Vine Mealy Bug (VMB) is finding its way around the district. Be aware of the possibility of VMB popping up and keep an eye out. Information is available at the LWWC office, our office and online at ipm.ucdavis.edu or vinemealybug.uckac.edu. The

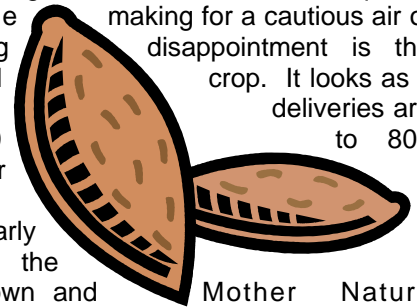
Glassy Winged Sharp Shooter (GWSS) problem has not gone away, but the Ag Commissioner's office has been effectively monitoring and keeping it out of the county.

Fall Vineyard Checklist

- If soil is dry, a light irrigation will help maintain soil moisture until it rains.
- No nitrogen should be applied now, but potassium now or early next year is okay as it won't move like nitrogen. To get full benefit of compost, it needs to be disked in.
- Make a note of any problem weed species that may be increasing.
- Mark any vines with excessive red leaves and/or leaf roll for possible removable.
- Renew your Ag Waiver Discharge membership.
- Update your air pollution mitigation plan if you have 100 acres or more in a single vineyard.
- Also, review your pesticide use reports and get everything up to date as there is renewed interest in making sure agriculture is "accountable" for all problems real or perceived.

ALMONDS

The 2005 season was also a mixed bag of good and bad. The upside of 2005 has been the much better grower prices and the increased demand; but this year's lower crop levels and increased costs for bees, fuel, fungicide use, along with air and water quality regulations are making for a cautious air of optimism. The big disappointment is the light Nonpareil crop. It looks as if many Nonpareil deliveries are in the range of 500 to 800 meat pounds per acre.



After an early and fast bloom, the season slowed down and Mother Nature challenged growers to maintain a good fungicide program. Anthracnose was a big concern, but fortunately enough dry periods or good luck prevented a repeat of 1998 disease losses. There were reappearances of problems we haven't seen a lot of in recent years, such as Verticillium wilt and Almond Rust.

A curious set of symptoms occurred before harvest, looking like hull rot, but no disease was present. This lower canopy wilt and dieback of smaller twigs and branches didn't seem to get out of hand, but the potential problem is being investigated. For now I could only call it the "Duncan-Holtz Syndrome." as Roger Duncan (Stanislaus) and Brent Holtz (Madera) have been looking into the situation. If you have some concerns or problems building with (continued on pg 4)

(continued from page 3)

"hull rot" (especially on the variety Padre) but no obvious nut infections let us know.

If you haven't attended the annual Almond Research Conference think about checking in to see the latest in research statewide and see some of the latest production and marketing offerings in the trade show portion of the meeting. See the details in meeting announcements or check out www.AlmondBoard.com.

Fall Orchard Checklist

-If the orchard didn't get a good irrigation after harvest, a light irrigation to help the fall rains soak in is okay.

-If water penetration has been a problem, a fall gypsum application or a fall lime application in low pH soils can help winter rains soak in.

-No nitrogen should be applied now, but potassium can be applied now or early next year, as it won't move out of the root zone like nitrogen.

-Pruning is okay, but not on young trees. In general less pruning is necessary than previously thought to keep production up, especially if the budget is tight.

-Mark trees or limbs for spring removal now, when they are more easily seen .

-Note any problem weed species to make herbicide or weed control strategies.

-Review your delivery sheets and try to determine exactly what caused the damage.

-Renew your Ag Waiver Discharge membership.

-Update your air pollution mitigation plan if you have 100 acres or more in a single vineyard.

-Also, review your pesticide use reports and get everything up to date as there is renewed interest in making sure agriculture is "accountable" for all problems real or perceived.

Paul Verdegaal
Farm Advisor

Finding A Balance On Valley Dairies

One of the fundamental challenges facing the dairy industry in the Central Valley of California will be to quantify the nutrient flow in each dairy farm, particularly nitrogen (N). Environmental legislation has made it necessary for dairy producers to be able to quantify and adjust N use on their farms.

Different research papers indicate that it is difficult to measure the various N losses from farms on a routine basis and strategies to control one type of loss (e.g. ammonia volatilization) often leads to increase in a different loss (e.g. nitrate leaching). Thus, whole nitrogen balance is often considered a means to estimate unaccounted for N that can become a hazard to the environment. Also, nitrogen balance can be used as a means to implement the necessary strategies to decrease the losses to the environment. In other words, complete records of total farm N inputs (feeds, fertilizers, bedding, etc) minus N outputs (milk, animals, manure, feeds, etc) will help dairy producers to identify possible areas to improve the efficiency of N utilization, decrease losses to the environment, and to comply with new environmental regulations.

The minimal time to run a whole nitrogen balance is one year. This might be considered a reference point or the first step for many dairies. In most of the cases, it would be possible to run whole nitrogen balances with the producer's records from recent years. If records have not been kept, it is highly recommended to begin keeping them.

A dairy farm will be in balance when the ratio between the N Inputs and N Outputs is approximately 2:1. That means, if in one farm the outputs of N in milk, feeds, animals, and manure represent less than 50% of

total N Inputs some changes need to be done to close the balance. For example, moving heifers to other farms to reduce their numbers, exporting dry manure as compost, increasing the forage production to consume more manure, decreasing feed purchases and fertilizers, maximizing the production of N in milk, etc. These changes, if they are necessities, must be carefully planned between dairy producers and advisers to reduce possible negative impacts on the system economy.

The University of California Cooperative Extension is also working on two other basic tools to improve the efficiency of nutrients utilization. They are: (1) how to apply manure to minimize N losses and improve forage production, and (2) how to feed animals to maximize N conversion to animal products. To minimize losses to the environment, manure needs to be applied at agronomic rates, or according to the N content in manure, soil, and the crop's consumption. Feeding management information from more than 50 dairies in Merced County indicates that dairy producers are doing an excellent job in terms of animal nutrition, but new technologies can be applied on high yielding dairy cows to improve efficiency of N utilization and decreasing N excretion. Clearly, estimating mass or whole nutrient balances is the critical step, and represent a large effort by the dairy producer.

Alejandro Castillo
Farm Adviser-
Merced & Stanislaus Counties

Avoiding fall frost & winter freeze injury in walnut orchards

Fall frost and winter freezing have the potential to damage walnut trees significantly. Knowing and managing the water status of walnut trees in late summer through fall can have a big impact on their susceptibility to injury from the cold weather that is coming soon.

Fall frost

Young trees (for example, 1st through 6th or 7th leaf) are especially susceptible to fall frosts if they enter the fall still actively growing and/or not fully dormant. Beginning as early as late August or early September, irrigation intervals should be lengthened or run-times reduced so as to begin to slow the growth of young trees. The objective of this management is that, as days shorten and temperatures cool, trees move gradually toward ending growth and undergoing internal changes (building up starches and sugars) that make them more resistant to freezing fall (and winter) temperatures. This is particularly important for vigorous varieties such as Tulare, Chandler and Hartley. The warm day-time temperatures we have experienced so far this fall are also conducive to keeping trees in a vegetative condition, setting them up for an early fall frost event if temperature patterns become suddenly colder. Micro-irrigation systems on automatic timers can contribute by making it overly easy to continue irrigation too late into fall.

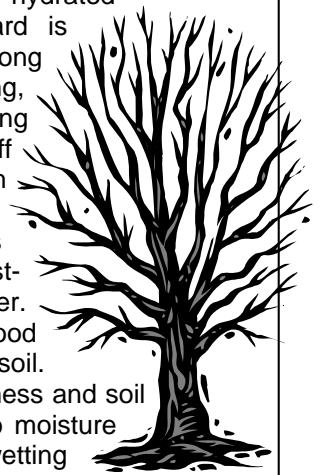
Mature trees generally grow less vigorously than young trees, and therefore are less prone to fall frost injury. The slow cutting back of irrigation to gradually slow trees down described above for young trees is generally not necessary in mature orchards.



Winter kill

All orchards – young and old – can be damaged by mid-winter freeze events. Mid-winter temperatures in the mid-to-low twenties are capable of killing walnut tree shoots, scaffold branches, and even entire trees. Careful management of an orchard's water status in fall can help minimize this type of injury later in the winter.

For reasons we do not fully understand, trees that enter the winter in a dry condition are more prone to winter kill than better hydrated trees. If you know your orchard is dry – because you waited too long to start irrigating last spring, under-irrigated during the long dry summer we had, or cut off irrigation water long enough before harvest that the orchard dried out by the time harvest was finished - consider applying a post-harvest irrigation during November. How much water to apply? A good rule of thumb is to wet a foot of soil. The amount will vary with soil dryness and soil texture. This irrigation will add to moisture from rainfall during this month, wetting even more soil depth, and help ensure that 1) trees enter winter dormancy in well-hydrated condition and 2) the full soil profile will be recharged with moisture by spring, setting the orchard up with a good reserve of stored moisture going into spring.



Joseph Grant & Terry Prichard
Farm Advisor Land, Air, Water Res. Specialist

Wheat Varieties for 2006

Choosing the right wheat variety with respect to stripe rust disease has never been more important. Last season's weather conditions pushed varieties to the limit for stripe rust resistance. We have relied on the variety "Summit" for several years with good success, but it is starting to show low levels of rust infection. If history repeats itself, varietal resistance will break as new rust strains develop. When this will occur is speculative and depends on environmental conditions and the amount of host acreage planted. Our variety trial on Victoria Island is in a location under heavy stripe rust pressure and serves as a good site for screening new wheat varieties. Table 1 shows the yields, grain protein con-

tents and stripe rust infection levels for trials on Victoria Island for the 2005 season. The three-year average for wheat and the two-year average for triticale in regional trials are also shown. The highest yielding variety remains Summit followed by Solano and Blanca Grande. Blanca Grande and Wincal 14 are white varieties and clearly the two that remain clean of stripe rust. They could be considered as management varieties for stripe rust in the future.

Mick Canevari
Farm Advisor

Table 1.

Performance of selected wheat and triticale varieties in regional and Victoria Island, San Joaquin County test sites

Wheat Varieties	Regional trials		Victoria Island / Delta Region							
	2003-05*		2003		2004		2005			
	lbs/A	Rank	lbs/A	Rank	lbs/A	Rank	lbs/A	Rank	% Protein	Stripe rust**
ANZA	3370	(8)	3510	(7)	1640	(8)	4380	(5)	12	5.5
EXPRESS	4130	(7)	3200	(8)	1850	(7)	4080	(7)	13	2
SUMMIT	5940	(1)	7310	(1)	4180	(2)	6030	(1)	12.5	1.8
BLANCA GRANDE	5380	(3)	6540	(3)	3230	(4)	4990	(3)	13	1
DASH 12	4820	(5)	5370	(4)	2920	(5)	3890	(8)	12.3	1.5
CLEAR WHITE	4840	(4)	5160	(5)	4390	(1)	4950	(4)	12	1.8
SOLANO	5480	(2)	6730	(2)	3890	(3)	5240	(2)	13.1	3
WINCAL 14	4180	(6)	3880	(6)	2380	(6)	4140	(6)	12.2	1
Triticale Varieties	2004-05*									
TRICAL 105	5690	(5)			2080	(4)	5920	(5)		1
TRICAL 96	6090	(3)			3250	(3)	7040	(4)		1
TRICAL 118	7490	(1)			5790	(1)	7890	(1)		1
TRICAL 116	6070	(4)			4350	(2)	7660	(2)		1.5
RSI 00TV60147	6210	(2)			1730	(5)	7430	(3)		

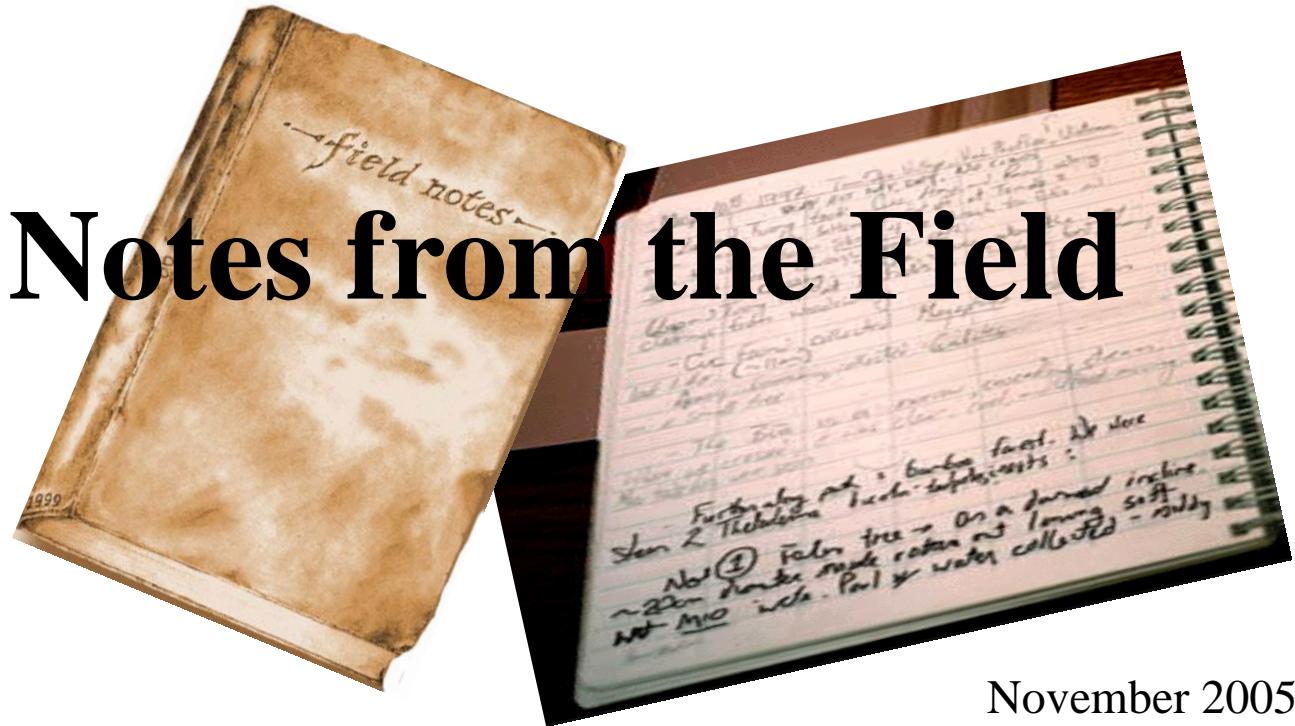
*Average of 12 Sacramento and San Joaquin Valley regional test locations/year for wheat varieties and 8 for triticale.

** Rating scale of 1 (0-3% leaf affected) to 8 (96-100%)



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Notes from the Field

November 2005

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