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Vine Lines

Fresno County

August 2010

Stephen J. Vasquez,
Viticulture Farm Advisor

In This Issue

Compliance Assistance Bulletin: Requirements for Burning Paper Raisin Trays

On May 20, 2010, the SJV Air Pollution Control District's Governing Board postponed the prohibition of burning paper raisin trays in accordance with the requirements District Rule 4103 (Open Burning) and California Health and Safety Code Sections 41855.5 and 41855.6. Therefore, the burning of paper raisin trays will continue to be allowed with a valid District issued agricultural burn permit and District authorization until such time that economically and technically feasible alternatives to open burning exist.

As a condition of the postponement, the following requirements were put in place by the Board in order to minimize smoke impacts and will affect all District agricultural burn permit holders authorized to burn paper raisin trays. **Please be advised that the failure to comply with the below requirements will result in the**

(Continued on page 5)

Fruit Maturity Affects the Yield and Grade of DOV Raisins

Matthew Fidelibus and Stephen Vasquez

The San Joaquin Valley experienced a prolonged period of cool, wet weather this past spring, which has delayed the development of many crops including grapes. Growers expecting to vine-dry their grapes may find it difficult to decide when to sever the canes and initiate drying; if drying is initiated too soon, raisin quality and yield will be compromised (Figure 1), but if drying begins too late, the fruit may not dry sufficiently before cool wet weather returns.

Recently, several studies have

Figure 1. Grapes with low solids will make flat, poor quality raisins.

(Continued on page 2)

DOV Raisins

(Continued from page 1)

suggested that dry-on-vine (DOV) raisins may have higher USDA grades than raisins made from similar grapes dried on trays. The reason why drying method may affect grading is uncertain, but could be related to the effect that drying method has on the raisins' wrinkles (Figures 2 and 3). Dry-on-vine raisins generally develop finer wrinkles than raisins dried on trays due to the axial vs lateral action of gravity on the drying fruit. Raisins of relatively large size and having relatively fine wrinkles will have higher USDA raisin quality scores, so the favorable wrinkling characteristics imparted by DOV might enable growers to initiate drying sooner, with fruits of lower soluble solids, than would be recommended for tray drying. If so, this would be desirable as earlier cane severance would increase the likelihood of adequately drying the grapes on the vine.

To determine the effect of soluble solids on DOV raisin yield and quality, we recently made DOV raisins from 'Fiesta' and 'Selma Pete' grapevines, with berries having a broad range of soluble solids, from 13 to 28 Brix. Then we compared raisin grades and yields as a function of berry soluble solids when drying commenced (Table 1, Figures 4 and 5). The proportion of 'Fiesta' and 'Selma Pete' DOV raisins receiving 'B or better' raisin grades increased with the level of berry soluble solids (Figures 4-5). Vines having fruit with high solids also produced greater yields in Selma Pete (Table 1).

Table 1. Effect of severing the canes of 'Selma Pete' grapevines on different dates on berry fresh wt, soluble solids (SS), titratable acidity (TA), brix:acid ratio, and raisin yield, grades, and moisture, Parlier Calif., 2007.

Figure 2. Vine dried raisins with sufficient solids have fine wrinkles and achieve good grades.

(Continued on page 3)

Table 1. Effect of severing the canes of 'Selma Pete' grapevines on different dates on berry fresh wt, soluble solids (SS), titratable acidity (TA), brix:acid ratio, and raisin yield, grades, and moisture, Parlier Calif., 2007.

	Berry			Raisin			
Severance date	Weight (g)	SS (Brix)	TA (g/100 ml)	Yield (kg)	B and better (%)	Substandard (%)	Moisture (%)
9 July	1.8	16.9 d	1.06 a	5.4 b	56.9 b	9.3 a	11.37
16 July	1.9	18.3 c	0.90 b	6.0 b	65.4 b	4.5 b	12.76
27 July	1.8	20.7 b	0.78 c	6.1 b	84.2 a	2.8 bc	11.89
3 August	1.9	22.4 a	0.65 d	7.8 a	88.6 a	2.5 bc	12.41
8 August	1.8	23.0 a	0.64 d	8.2 a	92.0 a	1.9 c	12.77

DOV Raisins

(Continued from page 2)

Figure 3. Raisins dried on trays tend to form larger wrinkles than DOV raisins.

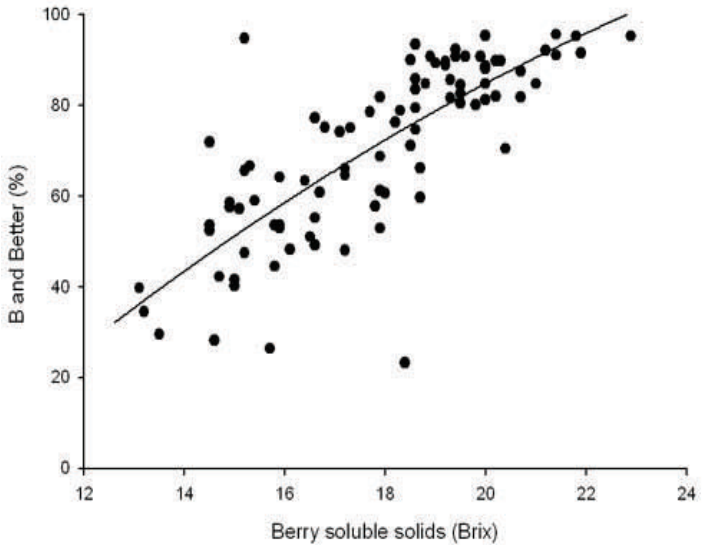


Figure 4. Brix verses grade quality for Fiesta.

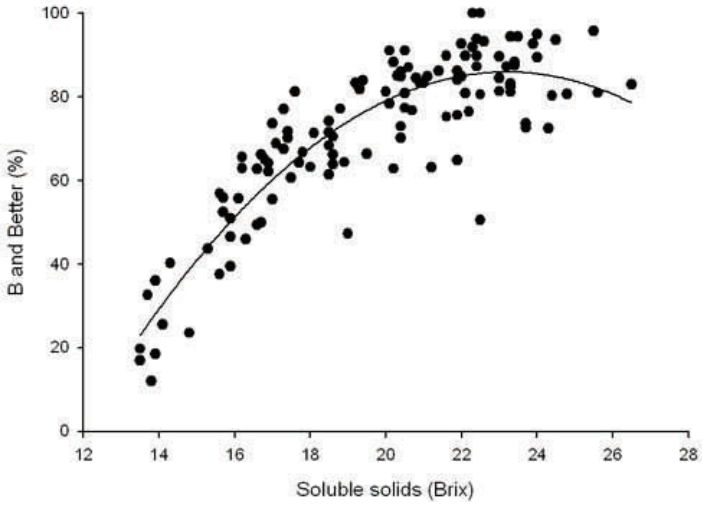


Figure 5. Brix verses grade quality for Selma Pete.

California Agriculture Articles

July—September 2010: Volume 64 No. 3

California communities deal with conflict and adjustment at the urban-agricultural edge

Alvin Sokolow, *et al*. UC Davis

About 2.5 million agricultural acres are located adjacent or in close proximity to nonfarm residences in California, leading to widespread farm-residential conflicts. This exploratory study compared high- and low-conflict edges in four crop-growing communities in two counties. (A separate analysis of San Diego County in a sidebar compares two edge situations involving animal and nursery operations.) We present tentative generalizations about conflict variations, sources and solutions. High conflict levels were largely due to residents' unfamiliarity with agricultural activities, although conflict levels were also related to specific farming practices. We also pose questions to guide further and more systematic research on the edge issue in California agriculture.

Full Article

A new method is used to evaluate the strategic value of Fresno County farmland

Evan E. Schmidt, *et al*. UC Davis

Fresno County is a rich agricultural area that faces rapid urbanization and farmland conversion. The county is participating in a strategic, multi-county planning initiative aimed at making sustainable and regionally cohesive land-use decisions. To inform this effort, we conducted a farmland conservation assessment and identified strategic farmlands for prioritization in future conservation efforts. We identified environmental and human predictor variables that affect the viability of existing farmland, used a geographic information system (GIS) to integrate them, and created a countywide strategic farmland conservation map. We compared our analysis to status quo methods of prioritization and found that with our model the spatial output of highly valued farmland was shifted, narrowed and located adjacent to some of the county's most urbanized areas. These findings are influencing growth policies and farmland conservation planning in Fresno County.

Full Article

EVGM Coordinator To Help Growers

European grapevine moth, *Lobesia botrana*, continues to be a concern for Fresno County grape growers. Agricultural Commissioner, Carol Hafner, is encouraging growers to remain vigilant and continue preventative insecticide applications focused on eradicating this damaging invasive pest. Growers should choose insecticide applications based on University of California guidelines and degree day modeling for European grapevine moth (EGVM). Current quarantine restrictions will remain in place until the pest can be declared eradicated from Fresno County. Eradication is defined by the last life-stage find detected plus three life cycles worth of time passing without additional finds of any EGVM life stages. This time period can only be confirmed by the EGVM Technical Working Group; a group characterized by scientist, regulators and industry personnel focused on finding the best solutions to minimizing the impact of EGVM on California agriculture.

Currently, cooperation from growers located in the quarantine area has been excellent as reported by Ken Schneider, European grapevine moth treatment coordinator for the Fresno County quarantine area. Meeting regularly with the Agricultural Commissioner, industry leaders and UC personnel, Ken has been keeping growers updated on EGVM developments. He is helping growers find products that give long residual against EGVM but minimize time between applications and harvest. Growers with questions or concerns should call Ken to discuss options that meet the needs of their operations as well as the industries.

Based on degree day modeling, it is anticipated that there will be a fourth generation in Fresno County. An additional generation makes it even more critical that treatments continue, making EGVM eradication a reality.

Continuing pesticide treatments are essential to eradication of EGVM from Fresno County. The swift and targeted actions that growers have taken thus far within the quarantine area are protecting the regions agriculture industry now and future harvest. The sooner eradication can be declared, the fewer treatments need to be applied, which means quarantine restrictions can be lifted so fruit can move freely to markets worldwide.

Contact Fresno Counties EGVM Treatment Coordinator if you have questions at:

Ken Schneider

559-787-3700 office
559-259-0335 cell

kens@alluvialag.com

More information:

http://ucipm.ucdavis.edu/EXOTIC/eurograpevinemoth.html

EGVM Hotline: 559-600-3486

Table Grape Research

International Researchers Travel Through the San Joaquin Valley

Nearly 16 years after the inaugural meeting in Anaheim CA, the 6th International Table Grape Symposium returned to California and was held at UC Davis. Approximately 300 participants convened to discuss all aspects of table grape production. Forty oral presentations and 25 posters were given, representing over a dozen countries and three states: California, Colorado and Idaho. Highlights of the meeting were symposiums that focused on the use and benefit of plant growth regulators for improved fruit quality and an overview of California's public and private table grape and rootstock breeding programs. Researchers for both sessions presented to full capacity auditoriums. The meeting concluded with a dinner at the Historic Railroad Museum in Old Town Sacramento. After the meeting, 100 participants toured the table grape growing regions of the San Joaquin Valley, with stops in Fresno, Tulare and Bakersfield. Participants were able to see a state of the art nursery, trellis installation demonstration and new table grape cultivars being grown in southern Kern County. The next meeting is scheduled for Australia in 2013. UC Cooperative Extension farm advisors, Jennifer Hashim and Stephen Vasquez, Kern and Fresno Counties, respectively and viticulture specialist, Matthew Fidelibus, Department of Viticulture and Enology, UC Davis, hosted the international group.

Raisin Trays

(Continued from page 1)

Violation and the imposition of a monetary penalty.

• All active raisin tray burn locations must be attended by able bodied adults with adequate tools or equipment to control a fire from escaping at all times.

• All burn locations must have adequate clearance to avoid escape. The burn area should be a "fire safety zone" away from dry fields, homes, shops, garages, utility poles or utility supply lines, and other buildings or equipment (a good fire prevention practice is to remove all combustible materials from around the burn area to a minimum of 30 feet).

• Paper raisin trays must be burned in a "fire safe zone" and in a contained manner to prevent the escape of burning embers or ash. Methods may include the use of a wire cage, a wire mesh which lays on top of the paper while it is being burned, or similar type devices. The device may be constructed out of hardware cloth or chicken wire provided that the mesh is no larger than a ½ inch opening. If a cage is to be used, the cage should never be filled beyond half full. It is your responsibility to determine if your local fire prevention agency has requirements as to what type of device may be utilized within their jurisdiction. Please be aware that using a burn barrel is strictly prohibited.

• Don't burn on high wind days.

• Avoid burning near a highway or roadway. Ashes or heavy smoke can create a very dangerous situation for drivers and winds caused by vehicles could cause the fire to escape from the fire safety zone.

• Don't cause a smoke nuisance to your neighbors. The shredding of raisin trays has been demonstrated to be a viable alternative to burning by many growers throughout the valley. If you choose this alternative to burning, you should adequately incorporate the shredded material into the soil to prevent the potentially combustible shredded paper tray material from accumulating in vineyard rows or along roadways.

Agricultural burn permit holders are encouraged to use the automated Smoke Management System when seeking a daily burn authorization. This system may be reached by telephone at 1-800-665-2876 or via the Internet at:
http://sms.valleyair.org

For an answer to your questions on open burning and/or agricultural burn permits, please call **1-800-665-2876** between 6:00 AM and 11:00 AM.

Variety Focus: Diamond Muscat

Diamond Muscat was released by the USDA Agricultural Research Service in 2000 as an early season white seedless with muscat flavor. It is suitable for dry on the vine (DOV) with cane cutting.

The clusters are medium to large and range from 0.5 to 0.75 lbs. They are conical with shoulders and are well filled to slightly loose. Straggly clusters can result from reduced fruit set in years with very cool bloom-time weather. The berries are slightly larger than Fiesta, averaging 2.1 grams, and are oval in shape.

The vine is vigorous and produces very high cluster numbers (average over 150 clusters per vine with 6 to 8 canes) with cane pruning. It is also fruitful on spurs, producing >75 clusters per vine on the renewal quadrilateral cordons. Thus, it has potential for wine or concentrate production with bilateral or quadrilateral cordon training and spur pruning.

Diamond Muscat ripens similarly to Selma Pete with soluble solids ranging between 21 to 22 °Brix by the second week of August. The muscat flavor is pleasant and mild.

Raisin yields average 4 and 4.25 tons per acre on a 6' open gable trellis. Raisin grades are 80 to 85% B or better with fruit at 22 °Brix. DOV raisins retain more muscat flavor than tray dried raisins.

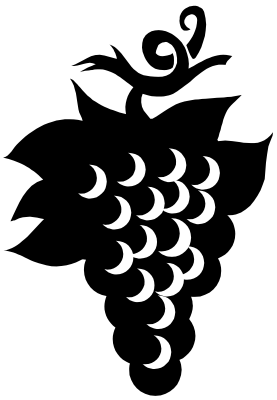
Abstracts Presented at the 2010 American Phytopathology Society Meeting

Isolation of Aspergillus section Nigri strains and incidence of ochratoxin-A in California raisins

J. D. PALUMBO (1), T. L. O'Keeffe (1), N. E. Mahoney (1), S. Vasquez (2)

(1) USDA ARS WRRC, Albany, CA, U.S.A.; (2) University of California Coop Ext, Fresno, CA, U.S.A.

Species of Aspergillus section Nigri, particularly *A. niger* and *A. carbonarius*, have been implicated as sources of ochratoxin-A (OTA) contamination in wine and table grapes, as well as raisins and other dried fruits. OTA contamination of these commodities is not uncommon in Mediterranean and South American regions, but has not been reported in California vineyards. To investigate the occurrence of OTA-producing Aspergillus section Nigri species in California, four raisin vineyards were sampled during the 2009 harvest. Thirty seven of the 40 raisin samples contained measurable OTA contamination. From these raisin samples, a total of 400 strains of Aspergillus were isolated and analyzed for production of OTA on culture media. Of these, 13 isolates, from six raisin samples, produced OTA. These isolates were identified as *A. carbonarius* (12 isolates) and *A. niger* (1 isolate), based on morphological characteristics and multilocus sequence analysis. *A. carbonarius* was only recently reported as a causal agent of sour rot on table grapes in California. This is the first report of OTA production by *A. carbonarius* or *A. niger* isolated from California raisins.



Grapevine necrotic union, a newly recognized disease in grapevines on 110 Richter rootstock in California

M. Al Rwahnih (1), A. Rowhani (1), R. J. Smith (2), J. K. Uyemoto (3), M. R. SUDARSHANA (3)

(1) University of California, Davis, CA, U.S.A.; (2) University of California Cooperative Extension, Santa Rosa, CA, U.S.A.; (3) USDA ARS, Davis, CA.

In early fall of Yr 2004, inspection of a 7-year old vineyard of Pinot noir (PN) clone 02A (*Vitis vinifera* L.) grafted on rootstock 110 Richter (110R; *V. berlandieri* x *V. rupestris*) in Sonoma County, CA, revealed ~ 2.1% of the grapevines with symptoms of solid red leaf blades, weak shoot growth and grape clusters with reduced set. Examination of trunk specimens indicated a necrotic line at the scion-rootstock junction and hence named "grapevine necrotic union" (GNU). Yearly surveys indicated that GNU incidence gradually increased to 22% in Yr 2009. This disease was also observed in PN clones 02A (PN02A), 04, 667, and 777, in Napa County, and Pinot gris 152 on 110R in Monterey County, and the incidence ranged from 2.0% to 45%. RT-PCR assays did not indicate any known grapevine viruses that could be considered associated with diseased vines. Repeated chip bud grafts of diseased vines onto test plants of Cabernet Sauvignon 08 on 110R rootstock failed to demonstrate a graft-transmissible agent. However, bench grafts of several PN clones and Chardonnay-04 (Ch-04) produced GNU on 110R but not on rootstock 3309 Couderc (*V. riparia x V. rupestris*). Ultradeep sequencing analysis of cDNA made from dsRNA obtained from bark scrapings indicated the association of Grapevine redglobe virus and Grapevine rupestris vein-feathering virus in Ch-04 and PN02A vines. These two viruses were also found associated with GNU affected vines in Napa County.

CALENDAR OF EVENTS

Local Meetings and Events

San Joaquin Valley Grape Symposium
January 5, 2011
7:30 a.m. — 1:00 p.m.
C.P.D.E.S. Hall
172 Jefferson Avenue
Easton, CA 93706

U.C. Davis University Extension Meetings

(800) 752-0881

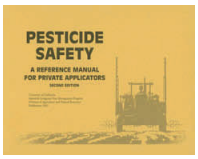
Taxation and Accounting for the Small Vineyard
November 4, 2010
9:00 a.m. — 4:00 p.m.
Da Vinci Building
1632 Da Vinci Ct.
Davis, CA
Section: 102VIT205

Taxation and Accounting for the Small Winery
November 5, 2010
9:00 a.m. — 4:00 p.m.
Da Vinci Building
1632 Da Vinci Ct.
Davis, CA
Section: 102VIT206

Current Issues in Vineyard Health
November 30, 2010
9:00 a.m. — 4:00 p.m.
Da Vinci Building
1632 Da Vinci Ct.
Davis, CA
Section: 102VIT202

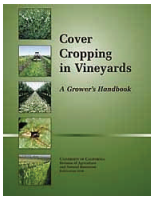
Public Relations for Small Wineries
December 10, 2010
9:00 a.m. — 4:00 p.m.
Da Vinci Building
1632 Da Vinci Ct.
Davis, CA
Section: 102VIT201

Publications from the University of California



Pesticide Safety: A Reference Manual for Private Applicators
ANR Publication 3383
Price - $7.00 + tax and shipping

Updated in 2006, this manual covers information essential for anyone using pesticides on California farms, including growers, managers and employees. The manual covers pesticide labels, worker safety (handlers and fieldworkers), how to mix and apply pesticides, calibration, the hazards of pesticide use including heat related illness, and pesticide emergencies.



Cover Cropping In Vineyards
ANR Publication 3338
Price - $20.00 + tax and shipping

This guide features cutting-edge methods for using cover crops to enhance vineyard performance. Based on extensive research, this guide details technical and theoretical information on how cover crops affect vineyards and promote ecological stability.

Order Form

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Cover Cropping in Vineyards		$ 20.00	

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