University of California Cooperative Extension Fresno County

Vine Lines

June 2008 Issue

Stephen J. Vasquez, Viticulture Farm Advisor

Cultural Practices for Scarlet Royal

Jennifer Hashim-Buckey and David Ramming

Scarlet Royal (US Plant Patent 16,229*) is a mid-season red seedless table grape developed by David Ramming and Ronald Tarailo of the USDA-ARS in Parlier, California. The cultivar, formerly known as B1, was released in 2006 and resulted from the cross of two red seedless USDA selections C33-30 x C51-63. The parentage of Scarlet Royal includes Blackrose, Calmeria, Cardinal, Crimson Seedless, Divizich Early, Italia, Maraville, Muscat of Alexandria, Sultanina and Tafafihi Ahmur. The cultivar produces large (0.8 kg./1.8 lb.), conical-shaped clusters that are medium to well filled. Berries are oval in shape and its appearance is similar to Crimson Seedless. Natural Scarlet Royal berries weigh about 5-7 grams, though berry weight and size is slightly increased when fruit is treated with gibberellic acid. The flesh is firm and meaty and the skin is medium to thick. The flavor is described as sweet and neutral. Scarlet Royal ripens mid-to-late August, filling the harvest window between Flame Seedless and Crimson Seedless.

Site Selection and Planting

Scarlet Royal is moderately vigorous when planted on its own roots. Rootstock selection should be based on site-specific soil pest or soil chemistry problems. Common rootstock choices for Scarlet Royal have included Freedom and 1103-P, but rootstock effects on fruit yield, quality and vine performance have not yet been evaluated. It is likely that grafting to these and other rootstocks common for table grape production in the San Joaquin Valley will increase vine vigor.

Training and Trellising Systems

Quadrilateral cordon training and spur pruning are suggested for Scarlet Royal vines. Depending on vine vigor and in-row spacing, 32-40 2-bud spurs should be retained during pruning.

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Managing Vine Mealybug Using Mating Disruption

Stephen Vasquez, Walt Bentley and Kent Daane

A new tool is now available for managing vine mealybug (*Planococcus ficus*) in vineyard production systems. Lavandulyl senecioate is a chemically formulated sex pheromone developed by UC researchers and manufactured and distributed by Suterra®. Suterra's patented membrane dispenser (Fig. 1) releases a consistent stream of pheromone that confuses the males, thus disrupting the mating process. The result is a reduction in males locating and mating with females, resulting in an overall decrease in vine mealybug (VMB). Mating disruption works best when integrated into a well planned VMB management program. A balanced IPM program for VMB should include the following:

- Field crews trained to identify VMB and damage
- Season long monitoring using VMB pheromone traps
- Sanitation protocols that include pressure washing or steam cleaning equipment
- Mating disruption
- Biological control
- Targeted and/or selective use of insecticide treatments
- Ant control

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Scarlet Royal

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Quadrilateral cordon trained vines may be trellised to the standard California "T" or the open gable "Y" system.

Productivity and Crop Load Management

Information on commercial production potential has yet to be established given its brief production history. However, experimental observation and data indicate that mature Scarlet Royal will yield 1100-1300 10 kg (22 lb.) boxes per acre for quadrilateral cordon, spur-pruned vines grown on a gable system. Cluster counts prior to bloom ranged from 50-70 per vine and crop load should be adjusted by thinning to about 40-45 well shaped clusters following berry set so as not to impede fruit growth. In addition to cluster thinning, it may be necessary in some years to thin berries due to their naturally large size.

Girdling and Gibberellic Acid

Very limited information has been developed on cultural practices to reduce set and improve the size of Scarlet Royal grapes. Girdling at berry set to increase berry size is not recommended on Scarlet Royal vines as previous work has shown that girdling may cause significant sunburn damage to fruit and may increase astringency in the berry skins. Initial work on bloom time applications of gibberellic acid (GA) indicate that rates of 2-2.5 ppm applied at 40%-60% bloom may not be completely effective for loosening the cluster. When determining optimal rates and timing, its best to observe untreated fruit during the first fruiting year and then begin with lower rates (2 ppm) and evaluate treatment effects before using higher rates. GA at the rate of 20 ppm applied at fruit set appears to be effective for increasing berry size. However, a 40 ppm rate has been shown to reduce return fruitfulness (the following year). In most cases the reduction may not be of economic importance due to the cultivar's highly productive nature. More work is needed to determine GA rates that will provide consistent effects on cluster thinning and increased berry size.

Scarlet Royal grapes on 1.5 year-old vines.

Color Development

Scarlet Royal grapes color well when grown under a full canopy and do not appear to have the problems of other red seedless cultivars, like Crimson Seedless and Flame Seedless, if crop load is properly managed. Ethrel (ethephon) is generally not recommended, as treated fruit may develop an undesirable purple color in comparison to the deep crimson hue of untreated fruit. Observations indicate that minimal basal leaf removal and other common canopy management practices are sufficient to enhance coloration.

Canopy Management

Shoot thinning should be performed on vines when shoot length reaches 8-10 inches. Shoot positioning should be performed

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Managing Vine Mealybug

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The first aspect of managing VMB is being able to identify the pest. It is imperative that field crews be well trained to look for and identify VMB and its characteristic damage. If VMB is identified early, success of managing its spread during the season and over seasons increases. A sign that VMB has infested a vineyard is the presence of sticky honeydew on clusters, leaves and bark. As the season progresses, the excessive amount of honeydew produced by VMB encourages sooty mold growth. Mealybug body parts and, especially, egg cases and crawlers will be found throughout fruit clusters and over the canopy. A heavy infestation should not be mistakenly attributed to grape mealybug (*Pseudococcus maritimus*). Grape mealybug will not produce such levels of honeydew. Less severe VMB infestations may not be as noticeable, with the canopy exterior void of mealybug, honeydew and sooty mold, but insects will be found in the crown of the plant. Vines where VMB signs and symptoms are found should be flagged, mapped, treated and monitored throughout the season.

The best time to utilize mating disruption is when VMB populations are low. Pheromone traps should be placed throughout the vineyard to monitor VMB populations. VMB traps use the same pheromone used in the mating disruption dispensers and are capable of attracting male VMB at least 100 yards from the trap. For every 20A a single trap should be used. When traps record <5 male VMB, they are probably being pulled from outside the vineyard. Recordings of male VMB in the range of 10-15 should be followed up with a survey of the vineyard for female VMB. It is this type of situation—low male catches and female finds—that warrant the use of mating disruption. To maximize the affect of mating disruption, approximately 200-250 pheromone dispensers (Fig. 2) per acre should be placed throughout a vineyard. For the best results, pheromone dispensers should be placed in the vineyard prior to or shortly after VMB begins to move from its overwintering locations. Managing high VMB populations using mating disruption is cost prohibitive and should be managed using insecticides registered for VMB management, first.

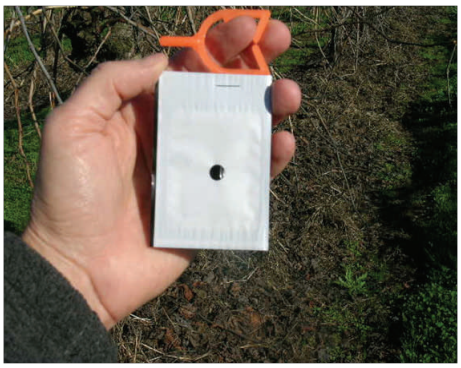

Figure 1. Vine mealybug pheromone dispenser.

Figure 2. Spent vine mealybug pheromone dispenser shown in vine at the end of the season. Dispensers are typically placed in the vineyard in April/May.

Additional Information

There are several good sources for additional information that discuss VMB and its damage.

- A publication that should be shared with field crews is titled *Vine Mealybug: What You Should Know*, UC ANR Publications 8152. It is available at your local UC Cooperative Extension Office for free or online at: http://anrcatalog.ucdavis.edu/pdf/8152.pdf

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Managing Vine Mealybug

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Figure 3. Vine mealybug adult male (left) and female with ovisac starting to be deposited.

- *Mealybugs in California Vineyards*, UC ANR Publication 21612 discusses the most common mealybugs found in vineyard settings. It is a great resource for identifying mealybugs and includes a key that uses unique characteristics for mealybug identification.

Online Information

UC has several web sites with VMB information that are updated regularly. New biology and management information using registered insecticides can be found at these sites.

- *Mealybug in California Vineyards* located at: http://www.vinemealybug.uckac.edu/

- *UC IPM Guidelines for Grapes* located at: http://www.ipm.ucdavis.edu/

- Vine Mealy bug: http://ucipm/PMG/r302301911.html

- Grape, Obscure, Longtailed: http://ucipm/PMG/r302301811.html

Stephen Vasquez is the UC Cooperative Extension viticulture advisor in Fresno County. Walt Bentley is the UC IPM advisor based at UC Kearney Agricultural Center, Parlier, CA. Kent Daane is a UC Cooperative Extension Specialist based at UC Berkeley and Kearney Agricultural Center.

Photos courtesy of K. Daane.

Scarlet Royal

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on open gable or other divided canopy systems. Minor leaf pulling in the fruit zone is generally recommended to facilitate air flow and foliar spray penetration, and facilitate color development. Shoot trimming or hedging in the row middles just prior to harvest is typically performed to maintain canopy shape and reduce humidity within the fruiting region.

Special Problems and Considerations

Scarlet Royal is susceptible to undesirable skin astringency, or bitter flavors if fruit is held too long on the vine and allowed to become over ripe (>23% soluble solids). Harvest must not be delayed. It is recommended that harvest begin when berries are well colored near the capstem and the fruit is sweet (≥17% soluble solids) and well balanced and continue harvest until soluble solids reach 22% to ensure high quality, palatable fruit.

* Scarlet Royal is exclusively licensed to the California Table Grape Commission and inquiries regarding availability of Scarlet Royal should be addressed to the commission at 392 W. Fallbrook, Suite 101, Fresno, CA 93711-6150.

Jennifer Hashim-Buckey is a UC Cooperative Extension viticulture farm advisor in Kern County. David Ramming is a plant breeder with the USDA-ARS, Parlier, CA.

Industry Funded Research Meetings Held Throughout the State

The American Vineyard Foundation (AVF) has organized a series of Regional Roadshows this summer to bring the latest in grape industry research directly to growers, winemakers and allied industry.

The regional meetings have been championed by the American Vineyard Foundation to present researchers funded by the AVF, Viticulture Consortium West and the California Competitive Grant Program for Research in Viticulture and Enology in local venues. Research projects funded by all three agencies will be included in the Roadshows.

Four Regional Research Roadshows will be held in different wine regions throughout the state in May, June and August. The Roadshows are sponsored by the funding organizations in partnership with local industry groups. The regional meetings feature speakers from the University of California and the California State Universities presenting their most current research findings to the local grape industry.

There will be four programs this year, each customized for its region with local University of California Cooperative Extension researchers and local industry stakeholders. Speakers were selected by local organizers from a comprehensive list of current ongoing research projects funded by the three agencies statewide.

The first in the series, the Central Coast Regional Research Roadshow, was held on May 6 at the Vina Robles Hospitality Center in Paso Robles. Speakers include: Andy Walker, Jim Wolpert, Larry Bettiga, Deborah Golino, Kent Daane, Menelaos Stavrinides and Mark Battany.

The Lodi Regional Research Roadshow will be held on May 28 at the Days of Wine and Roses Conference Center in Lodi with free admission. Speakers will include Hildegarde Heyman, Andy Walker, Matthew Fidelibus, Jim Wolpert, Mark Battany, and Doug Adams.

The San Joaquin Valley Regional Research Meeting will be held on Thursday, June 26th at the Armenian Cultural Center, 2348 Ventura, in Fresno.

Speakers will include:

- Evaluation of wine grape cultivars and clones for the San Joaquin Valley
  Matthew Fidelibus
- Application of near-infrared spectroscopy for mapping wine grape quality
  Bob Wample
- Update on irrigation practices for the San Joaquin Valley
  Larry Williams
- Nematicide delivery via resistant rootstocks
  Mike McKenry
- Miticide resistance in California's vineyards
  Nicholas Mills

Registration for the event on or before June 25 is $10 for members of the Central California Winegrowers or the SJV Viticultural Group, or $25 for non-members. Registration at the door is $40. The program will begin at 1:00 p.m. and culminate in a tasting of regional wines from around the world and hors d'oeuvres.

To register or for more information on the SJV meeting, please contact:

Peterangelo Vallis
pvallis@ccwinegrowers.org

Ranetta Bron
rbron@ccwinegrowers.org

559-618-1856

The last of the series, the North Coast Regional Research Roadshow, will be held Tuesday, August 12th in Santa Rosa. Speakers will include Linda Bisson, Hildegarde Heymann, Lucy Joseph, Ken Shackel, Larry Williams and Frank Zalom.

For information about the Regional Research Roadshows, please visit:
http://groups.ucanr.org/ResearchRoadshows/

Established in 1978 to raise funds for research in viticulture and enology, the AVF is a wine-industry sponsored non-profit organization funded by growers and vintners. Since its founding, the AVF has funded over $18 million in wine and grape-related research. For a complete listing of the funded research projects or more information regarding the AVF, check out their web site at: www.avf.org or by e-mail at: scott@avf.org

Agricultural Supervision Development Program

Two inter-related sessions to build knowledge, skills, communication, and teamwork

Kerman Community Center
15101 W. Kearney Plaza, Kerman, CA 93630

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Management Seminar

Presented in English
June 16, 2008
1:00 – 3:00 pm

Two-hour session for middle and upper-level managers who depend on and work with first-line supervisors.

At least one manager from each participating company must attend this session for supervisors to be eligible for the short course.

Management Seminar will cover:

* Operational and legal risks in ag business
* Key functions of first-line supervision
* Meeting supervisory training needs
* Clarifying roles and company policies
* Coordinating managerial and supervisory work

Fee to attend this session - No Fee!

Supervisory Short Course

Presented in Spanish/Presentado en Español
June 17 & 18, 2008
8:00 am – 3:00 pm (both days)

Two-day session for foremen, crew leaders, mayordomos, and others who directly supervise production employees. This course is highly interactive. Attendees will receive a certificate of completion. Must attend both days of the Supervisory Short Course to receive certificate.

Supervisory Short Course will cover:

* Supervisory roles and responsibilities
* Transition to the management team
* Expectations, policies, and regulations
* Tools, results, and risks of supervision
* Leadership and influence
* Communication skills to get work done
* Safety and OSHA compliance
* Meeting other legal standards
* Dealing with problem incidents
* Taking new ideas back to work

Fee to attend this session - $125 per person
Registration fee includes materials, lunch and break refreshments. Program costs are partly covered by the USDA Western Center for Risk Management Education.

Important Information

Please note, these sessions are designed for teams of managers and first-line supervisors. Pre-registration is required. Registration must be postmarked by June 13, 2008. Attendance in the supervisory course is limited to the first 72 pre-registrants. At least one middle or upper-level manager must attend the seminar prior to supervisors (foremen, crew leaders, mayordomos) from the same company participating in the short course.

The Short Course is open only to supervisors from companies that also participate in the management seminar.

For more information, please call AgSafe at (559) 278-4404.

Presenters

Jess Gomez, J. Gomez & Associates
Lourdes Gonzalez, Pan American Underwriters
Howard Rosenberg, University of California
Michael Saqui, Saqui & Raimondo, Counselors to Management

Program offered by

AgSafe
Center for Agricultural Business at CSU, Fresno
University of California Cooperative Extension

Registration Form *(Please Complete)*

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Phone: (_____) _____ Fax: (_____) _____

E-mail:_____

☐ **Management Seminar (English)**
June 16, 2008 – 1:00-3:00 pm

List attendees of Management Seminar:

_____

_____

☐ **Supervisory Short Course (en Español)**
June 17 & 18, 2008 – 8:00 am -3:00 pm (both days)

$125 per person X _____ number of people = $_____

List attendees of Supervisory Short Course:

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Make your check payable to: AgSafe

Mail Payment and registration form to:
AgSafe, P.O. Box 614, Clovis, CA 3613-0614

Calendar of Events

Local Meetings and Events

Agricultural Supervision Development Program

Management Seminar
June 16, 2008
1:00 p.m. — 3:00 p.m.
15101 W. Kearney Plaza
Kerman, CA 93630

Supervisory Short Course
(Presented in Spanish/Presentado en Espanol)
June 17 & 18, 2008
8:00 a.m.— 3:00 p.m. (both days)
15101 W. Kearney Plaza
Kerman, CA 93630

U.C. Davis University Extension Meetings

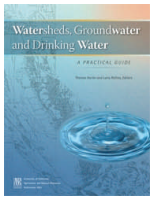
(800) 752-0881

Grapevine Leafroll Disease — An Increasing Problem for California Vineyards
June 10, 2008
8:30 a.m. — 4:30 p.m.
Freeborn Hall, North Quad
Davis, CA
Instructor: Deborah Golino
Section: 074VIT206

Winegrape Irrigation: Principles, Practices and Consequences
July 7, 2008
9:00 a.m. — 4:00 p.m.
1632 Da Vinci Ct., Da Vinci Building
UC Davis, CA
Instructor: Terri Prichard and Rhonda Smith
Section: 081VIT223

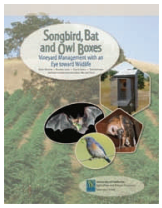
Small Vineyard Series: Integrated Pest Management, Cover Crops and Erosions Control
July 12, 2008
9:00 a.m. — 4:00 p.m.
Room 198, Young Hall, East Quad
UC Davis, CA
Instructor: Donna Hirschfelt and Rhonda Smith
Section: 081VIT218

Publications from the University of California



Watersheds, Groundwater and Drinking Water: A Practical Guide
ANR Publication 3497
Price - $40.00 + tax and shipping

This handy guide is a "must-have" for environmental scientists, water technicians, educators, and students. Water shed and groundwater hydrology fundamentals are discussed.



Songbird, Bat, and Owl Nest Boxes
ANR Publication 21636
Price - $15.00 + tax and shipping

This guide explains the benefits of the biodiversity and aesthetics of songbirds, bats and owls. Methods on how to integrate nest boxes within a vineyard are discussed.

Order Form

Publication	Qty.	Price	Subtotal
Watersheds Guide		$ 40.00	
Songbird, Owl Boxes		$ 15.00	

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$80—99.99	$12
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