

Vineyard Views

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Goodbye Napa County

My time in the Napa County Cooperative Extension office is coming to an end. Following the loss of Ed Weber, the University of California recognized the need to continue providing viticultural support in Napa County and asked me to help until a new advisor could be hired. Most of you know this process is now complete and beginning April 1st Monica Cooper will be the new viticulture farm advisor in Napa County. I know you will welcome her with all the support she needs to do a great job. I know this because during the past year I was fortunate enough to learn firsthand of your support, appreciation and generosity. I leave having made many new friends and with a sense of indebtedness for all you did to make the past year the most rewarding one of my professional career. Thank you all very much; working with you has been a true pleasure. Goodbye, I wish you all the best of luck and success.

In December of 2008 the Napa Valley Vineyard Technical Group and I organized a plant material workshop event that took place at the Lincoln Theatre in Yountville. I believe that the program deepened our appreciation that healthy plant material is fundamental to the success of the wine industry and that we need to be careful when purchasing vines. For this newsletter I put together an article reiterating many of the points that were presented at the workshop. I hope you find the article useful.

Sincerely,
Mike Anderson

One More Song Before I Go: Lessons from the December 2008 Plant Material Workshop

There is currently great concern about the spread of leafroll virus in Napa County vineyards. When I polled Napa growers 98% said they were concerned about the spread of leafroll and 67% said that leafroll had already spread into their vineyards. Many growers are reporting that leafroll spread is significantly reducing the productive life of their vineyards. These are serious economic concerns. When a vineyard is removed due to virus spread a grower's first resolution is to not repeat the performance. This means doing everything possible to plant a clean vineyard and keep it that way. My opinion is that all new plantings need to be made with virus-free material; leafroll cannot spread if it isn't there in the first place. The concern over leafroll has made getting the cleanest, most virus-free, planting material imperative. Because leafroll can spread from one vineyard to another planting virus-free vineyards is not only in the best interest of the individual growers but of the entire community.

How do we get clean material?

The path to clean plants can sound rather simplistic. It comes down to identifying clean plants to serve as a source and keeping them that way. Most viruses display symptoms that we should be able to identify. For instance leafroll causes leaves to turn red. With that in mind, careful observation should allow us to tell infected vines from healthy ones. We all know about going into a vineyard to collect budwood and making sure to only collect wood from vines not showing red leaves. This is a tradition that makes it clear that clean plants have always been the choice of growers. This would seem simple and effective but in practice there are many potential flaws. To begin with, in addition to virus, red leaves on red fruited varieties are caused by a variety of disorders and leaves of virus infected white varieties don't turn red at all. In short, I do not believe that the expert exists that can consistently assess vine virus status simply by strolling through a vineyard. Harvesting budwood from your own or your neighbor's vineyards simply doesn't provide the necessary safeguards required of an investment as great as planting a new vineyard.

The first stop for planting a clean vineyard is, of course, to buy vines certified by the California Grapevine Registration & Certification Program. Certified vines have a pedigree that traces back to Foundation Plant Services (FPS) at UC Davis. Plants originating from FPS have been subjected to the most thorough assessment of varietal identity and virus status available. In recent years many of the selections at FPS have undergone shoot tip culture to remove any viruses. It is not necessary to explain this process in depth but FPS believes that selections that have undergone shoot tip culture are the cleanest of the clean plants. Whenever possible buy plant material that traces to vines produced by shoot tip culture. Vines that pass FPS scrutiny are included in the FPS Foundation Vineyard and are made available to the public. Most commonly, this material enters into the California Grapevine Certification program. The California Certification program works with participating nurseries to maintain both the cleanliness and varietal correctness of the vines in the program. The blocks at the nurseries are known as increase blocks. Certified grapevines are your best choice when purchasing grape planting material. The source and every propagative step taken to produce certified vines have been regulated and documented. All this might lead you to believe that buying clean plants is as simple as buying certified. This, unfortunately, does not appear to always be the case.

I recently sent a survey to Napa County growers asking them about their experiences with grape nursery material. The results are just coffee shop talk but I think they are worth listening to. Approximately 60% of the respondents said they thought they had purchased certified material that was virus infected and 40% said they knew they had purchased virus infected certified material. The good news is that 85% said certified plants were the best available and 98% said buying virus free plants was important to them. There are either misunderstandings about whether the vines are indeed infected with virus or some problems with certified material. The truth is that the reality probably includes a little of both. The CDFA routinely tests some of the vines in the certification program and they do occasionally find vines with viruses (see the section included in this article regarding secondary increase blocks). Vines that test positive are, of course, removed but the lesson is that there are indeed a small portion of vines in the certification program that are virus infected. This does not change the fact that certified vines are your best first choice for clean plants. What it does mean is that you want to know more about the vines you buy than whether or not they are certified.

How can it be that certified plants are delivered with a virus?

First we need to make it clear; buying certified vines does not guarantee that the vines are free of virus. Guaranteeing that a plant is virus free is virtually impossible. A guarantee cannot be made because the tests used to assay viruses become more sensitive as the science advances allowing the detection of virus that was not previously seen and that only known viruses can be tested for. Every effort is made to ensure that plants leaving FPS are free from virus but the best they can say is that, using the detection methods available at the time, they are free of known virus. The risk of buying certified vines that are infected with a virus is low but there are a few things to understand that can even further reduce this risk.

From time to time FPS discovers that a vine in the Foundation Vineyard is not as clean as they thought it was or that it has become infected with a virus. Following such a discovery FPS alerts the public and CDFA and every effort is made to remove vines originating from the infected foundation vines from increase blocks. The CDFA understands that virus can spread and tests adjacent vines in the increase blocks. This is not a perfect system as it would not be impossible for vines a number of rows away from the virus infected vine to become infected also. The lesson here is that age is your enemy and youth is your friend. As technology improves so does the ability of FPS to detect virus, therefore the more recent material released by FPS is likely to be the cleanest. Also, the newer an increase block is the more likely it is that virus infected vines have never been planted in it.

Infection and errors at the nursery can also occur. One of the most important steps a nursery can take to safeguard the material they have is to be isolated from other vineyards. Proximity to grape growing districts invites unintentional infection from commercial vineyards. Many nurseries grow both certified and non certified vines. Certified vines in these nurseries can be compromised by virus spread from non certified material and by handling errors. Neither of these threats is intentional but they add to risk. It is also not uncommon for nurseries to trade or broker material. It is a basic tenet of plant certification that every time plant material passes from hand to hand it is potentially compromised. In many certification systems the material loses status each time it changes hands, for example changing from grade A to grade B as it goes from one nursery to another. The compromise can be either from confused identification or contamination. The mistake may or may not ever be detected but can have serious effect on vineyard production and wine quality. Look for isolated nurseries selling only certified vines and insist on knowing where the material originated.

There is one final point that I would like to make. The regulations governing the grape certification program are currently being revised. The new regulations call for increased monitoring of increase blocks which is good. They also allow for secondary increase blocks. Quite simply secondary increase blocks are one step removed from primary increase blocks (thus far referred to simply as increase blocks), are often old and more likely not to be clean. This is not just my opinion, here is what CDFA has to say about them in their Initial Statement of Reasons for the regulations that you can find at the CDFA website http://www.cdfa.ca.gov/phpps/regs_grapevines.html:

Increase blocks planted prior to 1993 may be eligible for secondary increase block status if they are tested as described in subsection 3024.6(b)(4) and the results are negative. There is a specific reason these older blocks will not qualify for primary increase block status under the proposed regulations. ELISA technology was used for the first time in

1992 to check the foundation blocks at FPS for the leafroll virus. About 20% of the mother vines in an old foundation block tested positive for leafroll. The distribution of leafroll virus in the foundation blocks suggested that leafroll had spread into the mother vines sometime after 1988. In 1993 R&C Program participants were required to remove all increase block vines propagated after 1988 from leafroll positive source vines. However, problems with the leafroll virus in increase blocks continue so the proposed regulations will downgrade the older blocks to secondary increase block status.

As the new regulations are currently written nurseries will not be required to inform customers whether the certified vines they are buying came from primary or secondary increase blocks. I suggest very strongly that if these regulations become effective that you ask and steer away from secondary increase blocks. Currently, the regulations are pending and await a public hearing scheduled for March 17 at UC Davis.

Every point I make is worthy of further explanation and discussion. My attempt here however is to make you aware of a few key steps you should take to ensure that the vines you buy is the best you can get.

Here is a check list summarizing my points.

- 1) Buy certified material. By accepting only certified material you make the single most important step toward planting your vineyard with virus free vines.
- 2) Buy material from recently established increase blocks. Newer increase blocks have the most recent FPS material and are less likely to have been infected at the nursery.
- 3) Buy material that was not produced in a grape growing region. In California it is nearly impossible to be completely isolated from grape vines but the farther the better.
- 4) Avoid brokered material. It is always best that the vines you buy were propagated from start to finish at the nursery you purchase them from.
- 5) Look for selections that underwent shoot tip culture at FPS. You can find this information and much more at the National Grape Registry website <http://ngr.ucdavis.edu/>. Click varieties, search for the variety of interest, view clone list. Each clone is listed and you can look for Shoot tip culture next to treatments. You won't always find this treatment but when you do these are the cleanest plants.
- 6) If secondary increase blocks are approved avoid buying vines produced from them. You will have to ask your nursery. Even if you choose to but plants from a secondary increase block this is something you want to be aware of.
- 7) Establish a good relationship with your nursery. Find someone to trust, the future of your vineyard depends on it.

Introducing Monica Cooper – Napa County UC Viticulture Farm Advisor

We are happy to announce the hire of Monica Cooper as the Viticulture Farm Advisor/County Director for Napa County UC Cooperative Extension. Monica will begin her position on Wednesday, April 1, 2009. Join us in welcoming Monica to the Napa office.

Monica Cooper comes to the Napa County UC Cooperative Extension office from the University of California, Berkeley where she held the position of Staff Research Associate III-Supervisor. At UC Berkeley, Monica managed CE Specialist, Kent Daane's research laboratory in the Department of Environmental Science Policy and Management coordinating personnel and activities for several projects including Argentine ant, vine mealybug, olive fruit fly biological control, Eucalyptus psyllid pests and grapevine leafroll. She earned a B.S. degree in Biology from Washington and Lee University in Lexington, Virginia in June 1996. She then served as a Peace Corps volunteer in an agrarian community in Panama, from 1997-1999. Upon returning to the U.S., Monica entered the University of Florida where she earned a Doctor of Plant Medicine degree in August 2006. As a graduate of the program she carried a rigorous course load in the disciplines of entomology, plant pathology, weed and soil science, agronomy and horticulture.

During her time as Staff Research Associate III-Supervisor at UC Berkeley she worked on the development and evaluation of Integrated Pest Management programs for arthropod pests in vineyards, apples and olives. Monica's other major focus had been the ongoing study of sustainable mealybug and Argentine ant controls in vineyards where she has organized research and demonstration plots to study the combined effect of management tools such as biological control, mating disruption, and bait, and insecticide applications on mealybug populations.

Monica has authored many publications and press stories related to Argentine ant and vine mealybug management as well as made numerous presentations on both subjects throughout the state. She has been active in the Carneros Growers' Vine mealybug Workgroup since 2006 and a member of the Entomological Society of America since 2002.

As Napa County UC Viticulture Farm Advisor, Monica anticipates continuing her work on vineyard mealybugs as well as addressing additional needs of the industry. She envisions working not only with pest, disease, and fertility problems but will also tackle water, land, and other resource issues.