February 2017 Newsletter

**President’s Message**

Well, our annual RVWA meeting/dinner was a great success again, with excellent food provided by Jacksonville Inn, and informative presentations by Greg Jones and Alex Levin. The positive feel in the room reflects the growing success of our industry here in Southern Oregon, where once again we have been included in a powerful magazine article on best “little known” wine regions *of the world*. Tom Danowski gave us an update from the Oregon Wine Board, and especially from the OWA, our industry advocacy organization which is busy at work protecting your interests in Salem as we begin another biannual legislative session, one fraught with danger due to a huge budget deficit. If you have not joined the totally voluntary OWA, I would encourage you to do so, as it is the only group dedicated to looking out for your interests in the political world.

I am very excited about the upcoming **3rd Annual Southern Oregon Grape Symposium** on March 14. Full details on the program are below, but this event has been growing more popular every year, and last year we maxed out attendance for the space available at SOREC’s auditorium. I would urge you to get your name on the attendance list as soon as possible, which you may do by emailing me at kjohnpratt@gmail.com I have had a number of requests for enrollment from out of the area, so don’t wait.

Chris Cook from Capiche has done a remarkable job taking over the Marketing Roundtable from Marilyn Hawkins, and she and Robert Trottman have organized a Wine Marketing Workshop on March 13, 2017 at the Ashland Hill Hotel. See below for more information.

Beautiful February afternoon today, as I sit here recuperating from foot surgery. I realize I am a very fortunate man to be able to live in this beautiful valley, growing grapes and making wine that I am proud to share with family and friends. I am also very gratified to be a part of this organization, and the positive response to our increased membership dues felt very good. Over 70 members have responded by renewing their memberships, and we will do our very best to uphold your confidence by providing excellent learning opportunities and supporting meaningful research. Thank you, my friends. Paz--John

***3rd Annual Southern Oregon Grape Symposium***

**March 14, 2017**

**Southern Oregon Research and Extension Center**

**Red blotch session**

**0830-0930 Physiological Response of Grapevine to Red Blotch Disease**

Dr. Kaan Kurtural, Viticulture Cooperative Extension Specialist, UC-Davis

**0930-1030 Integrative Studies Towards Management of Red Blotch and Its Vectors**

Dr. Vaughn Walton, Associate Professor and Horticultural Entomologist, OSU

**1030-1130 Red Blotch Disease: What’s Next?**

Dr. Marc Fuchs, Associate Professor, Cornell University

**1130-1230 Establishing, Maintaining, and Distributing Clean Grape Material**

Josh Puckett, Production Manager, Foundation Plant Services (FPS), UC-Davis

**Sesión en español (Spanish language session)**

**0830-1000 Relaciones Hídricas en Vides (Water Relations in Grapevine)**

Ítalo Cuneo, PhD Candidate, UC-Davis

**1000-1130 Title TBD**

Francisco Araujo, Atlas Vineyard Management, Inc., California

**1230-1315 Lunch**

**1315-1415 Integrating Infrared Temperature Sensors for Monitoring Grapevine Water Status and Water Use**

Dr. Christopher Parry, Post-doctoral Scholar, UC-Davis

**1415-1515 Terroir, Low Yield, and Other Myths of Winegrowing**

Dr. Mark Matthews, Professor Emeritus, UC-Davis

**Upcoming Events**

Wine Marketing Workshop

When: Monday, March 13, 2017, 9 am to 1 pm

Where: Ashland Hills Hotel

Who: Chris Cook and Robert Trottman

Registration: $90/person Register via PayPal (chris@capiche.us) or by mailing a check to Capiche, 1275 Neil Creek Rd., Ashland, OR 97520. Nonrefundable.

3rd Annual Southern Oregon Viticulture Symposium

When: Tuesday, March 14, 8am to 3:30 pm (coffee with snacks and lunch provided)

Who: See full description for details on speakers

Where: SOREC Auditorium

Registration: $25 for RVWA members, $50 for non-members. Send RSVP to kjohnpratt@gmail.com. Pay with check or cash at the door or by CC on rvwinegrowers.org

**Custom Crush Opportunity**

**Are you in need of custom crush winemaking, cold storage for your winegrapes or wine lab services??  Naumes Crush is here for you!**

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**Greg Jones Climate Update**

For a complete view of Greg Jones’ February Climate Update, please go to

<http://rvwinegrowers.org/wp/wp-content/uploads/2017/02/Winter-2016-2017-February-2017-Report.pdf>

**A Pruning Primer**

*By: Andrew Harner and Michela Centinari*

As we move forward through the winter season, many growers have begun or are planning on beginning their annual dormant pruning within the coming weeks. Though a routine task within the vineyard, dormant pruning is essential to maintaining a balanced vineyard that produces quality fruit. With that in mind, this post will both review the basics of dormant pruning and present a series of important considerations to keep in mind when pruning and planning to prune.

With that being said, we will begin with the basics: ***What is dormant pruning?***

In short, dormant pruning is the intentional removal of grapevine tissue, in the form of canes, cordons, trunks, etc., during the annual period of plant dormancy.

***What are we trying to gain or change through dormant pruning?***

In order to understand the rationale and goals behind dormant pruning, it is first important to understand the biology of grapevines and their physical characteristics that have evolved over thousands of years. Grapevines behave as lianas, or woody, lignified vines that lack a specific growth form on their own; instead, they use other means of support for their growth (*i.e.*, trees or trellis wires). Moreover, grapevine shoots exhibit an indeterminate growth pattern and will continue to grow as long as growing conditions allow and are hospitable. This helps explain why the wild grapevine species endemic to North America tend to be sprawling masses of extensive shoots, and overall have a vigor that differentiates grapevines from many other fruit crops. As a whole, they will remain in this vegetative state until there is access to sufficient sunlight to induce floral development.

Both trellising and pruning are means of harnessing this inherent productivity, with the goal of transitioning it into reproductive growth and consistent, quality fruit yields. *Dormant pruning is the primary tool used by grape growers to maintain vine shape, as defined by the training system, and to effectively regulate crop load (fruit mass/vine size) so that a vine’s bearing capacity matches its vegetative vigor capacity*. This balance is especially important, as over- or underestimating a vine’s capacity to ripen a fruit crop may result in overly vigorous or overly cropped vines, both of which can have long- and short-term negative consequences. Additional crop load adjustments through shoot thinning and cluster thinning may also be necessary during the growing season to fine-tune grapevine crop load.

***Principles of vine balance and essential considerations***

Various efforts by researchers to quantify the effects of pruning on vine performance have resulted in the establishment of a few metrics that can be used to guide dormant pruning. Perhaps one of the most basic but important ways to measure vine size is through the collection and weighing of the canes removed by pruning (Figure 1). These numbers could be used to compare final vegetative biomass between vines of any given season, and when combined with the crop yield measurement—taken on the same vines at the previous harvest—can be used to calculate the ratio of fruit yield to vegetative mass. This ratio is the basis for the **Ravaz index** (yield/pruning weight), an early metric of vine balance first pioneered by the French viticulturist Louis Ravaz during the early 20th century.

Otherwise called crop load, optimal Ravaz index values vary by grapevine species and variety: research on Vitis vinifera has suggested that optimal crop load values fall between 5 and 10; a Ravaz index below 5 indicates that vines were potentially under-cropped (a large vine with a small crop), while a Ravaz index close or above 10 indicates that vines may have been over-cropped (a large vine with a small crop). American and Canadian studies have suggested that interspecific hybrid varieties, more of which are grown in Pennsylvania and other regions of the northeast and Midwest US, are capable of achieving higher crop load values without compromising fruit quality.

Caution is still necessary when thinking about crop load, however, as these general ranges fail to detail variations in a vine’s capacity to ripen its crop due to genotype, weather, soil, and management strategies. Exceptions can occur, and often do occur. While any variety may produce high yields with good fruit quality at one site – and subsequently attain high Ravaz index values – the same variety may not be able to ripen the same amount of fruit at less vigorous sites and under different weather conditions (i.e., locations with shorter growing seasons and/or with lower heat accumulation).

The concept of **balanced pruning** focuses on cropping vines at yields that are tailored to the vine’s vigor potential and size. The goal is to prevent under- or overcropping and ensure proper shoot maturity and winter-hardiness through a conscious approach to pruning: for example, more vigorous vines are allocated a greater number of buds so the vegetative growth potential is spread across a greater number of nodes, resulting in lower individual shoot vigor. In terms of managing weaker vines, fewer buds are to be retained so the remaining buds will produce more vigorous shoots.

Simple model equations have also been developed for balanced pruning that allocate specific numbers of nodes based on total pruning weights. A classic example is the equation for Concord vines: 30+10, where 30 nodes are retained for the initial pound of pruning weight, and 10 nodes retained for every additional pound of pruning weight thereafter. This specific formula is unsuitable for hybrid and V. vinifera vines, however, as Concord vines are typically cropped at higher levels. Other suggested formulas are based on cluster size, with large clustered varieties (e.g., Chancellor) at 20+10, small clustered varieties (e.g., Marechal Foch) at 20+10, and medium clustered varieties at 10+10. Varieties with large clusters and highly fruitful shoots tend to overcrop, so additional cluster and shoot thinning may be necessary for optimal balance; this counteracts any overcropping that could potentially occur if the formula is followed strictly. Again, these formulas are not the rule, and exceptions to them ­can and will occur. Instead, it is immensely important to use them as a guideline and tailor final node counts to the individual vine or variety, while keeping in mind site and variety vigor, climate, soil type, and training system.

**What differences exist between cane and spur pruning?**

Depending on the type of training system implemented and the variety being pruned, dormant pruning methodology consists of either cane pruning or spur pruning. The difference lies in the length of bearing unit, or the one-year old wood, retained: spurs are typically 2-3 nodes long, whereas canes are longer – usually between 8 to 15 buds.

With spur pruning, the one-year old fruiting canes are pruned back to spurs of 2-3 nodes, being the fruiting wood that will yield new shoots in the subsequent growing season. This allows for the retention of cordons and mature, wooden arms

Conversely, cane pruning entails the removal of one-year old growth back to the head or crown of the vine, with the retention of two canes – one for each side of the trunk – for the bilateral training systems that are used in many vineyards in the eastern US (Figure 4). In sites with high vigor potential, growers may choose to leave four canes instead of two (Figure 2A & B, and Figure 5), which will help to accommodate more vigor and leave the vine more balanced. Furthermore, choosing canes of the right size is especially important—the preferred cane diameter is within a range of 3/8 to 1/2 inch, easily represented by the diameter of a pencil—as thick, excessively vigorous bull canes are as unsuitable as thin, spindly canes. Canes that are too thin or too thick will only yield shoots and fruit of inconsistent quality, whereas well-matured canes with diameters within the mentioned range will only help with maintaining full canopies and fruit-bearing capacity.

**Choosing the right pruning system is dependent upon many factors**: the variety being grown is especially important, as basal buds of some varieties (*e.g.*, Sauvignon blanc, Nebbiolo) have low fruitfulness and are therefore unsuitable for spur pruning. Vine spacing, mechanization, available labor, and time availability may also affect the choice of a pruning technique. Cane pruning requires more labor in the form of tying down canes, but cane-pruned vines generally require less shoot thinning during the growing season. It is therefore important to select canes with equally spaced internodes, as this allows for equally spaced shoots and reduced shoot crowding.

If the vines are spur-pruned, retaining equally spaced spurs is crucial in order to obtain uniform canopy density and improved sunlight penetration, though shoot thinning during the growing season will likely be necessary as well. Regardless of the pruning method chosen, **maintaining sunlight into the renewal zone** is essential, as poor light penetration will inhibit bud fruitfulness with negative consequences for future yield and fruit quality.

***How do I know when to prune? Pruning strategies for cold climate viticulture***

Regardless of the seemingly obvious answer that dormant pruning should be implemented during the dormant, winter season, the timing of pruning could have major implications for the following season’s growth.

In grape-growing regions where there is risk of exposure to damaging cold events, such as Pennsylvania, pruning during the late winter is preferred. Low winter temperature events can damage buds and vascular tissues of mainly cold-tender vine varieties – all vines have limits to their cold-hardiness, however, and even very cold-hardy hybrids can sustain injury to buds and other tissues under exceptionally cold events.

Pruning in the late winter would allow growers a chance to assess vine injury and accordingly adjust the number of buds/nodes to retain. Yet due to labor and time constraints, it is often not possible to do all pruning in the late winter; instead, it is best to begin with the most cold-hardy varieties and leave more cold-susceptible varieties until later in the season. Moreover, in an instance where a damaging cold event does occur, various levels of additional buds are recommended for retention during pruning, depending on the percentage of bud necrosis (Table 1). A high level of bud injury might require differing pruning strategies, such as retraining new trunks and renewing larger parts of the vine, but these topics will not addressed within this post.



Table 1. Bud mortality thresholds and recommended adjustments to pruning strategy. Adapted from Willwerth et al., 2014.

When forming a plan for pruning, it is equally important to consider the topographic and microclimatic variability of a vineyard site, as this has implications for air drainage. Vines, rows, or blocks that are at lower elevations than the rest of the vineyard may be more susceptible to cold temperature injury if dense, cold air drains to these low points and pools there. This creates pockets of air that will have lower temperatures than the ambient temperatures of any surrounding blocks, rows, etc. that are at higher elevations.

This is also a consideration worth keeping in mind as the season progresses to bud-break, as these same microsites are also more susceptible to damaging **spring frosts** and could have any early season growth quickly curtailed. In these cases, double-pruning can be a potential strategy when spur-pruning: canes are first pruned back to long spurs/canes of 5-8 buds, which will allow for terminal bud growth first and will suppress basal bud growth due to apical dominance. Once the risk of frost has passed, a final pruning cut should be made to cut the spurs back to 2-bud spurs. An alternative for cane-pruned vines would entail leaving long canes and extra canes until the threat of frost has passed, and then subsequently making a final pruning cut that leaves the canes at the desired bud number.

Through this post we have hoped to provide an overview of balanced pruning methodology, as well as emphasize considerations that are essential to successful pruning and maintaining balanced, fruitful vines. We realize that many growers tend to have their own styles and methods of pruning, however, and their own rationale for using specific strategies that may differ from the ones listed here. We would be happy to hear about their systems, and any strategies that have proven successful for their vineyards and vines, or adaptations they have implemented to handle specific circumstances or issues within the vineyard. Please feel free to contact us with your ideas and experiences regarding dormant pruning.

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