

# GRAPE PRESS

Spring 2016

The Quarterly Newsletter of the VIRGINIA VINEYARDS ASSOCIATION

Vol. 32 No. 1

## FIRE, WIND & ICE

Keswick Vineyards, like many in Virginia, took extreme and valiant measures to guard against the sudden and devastating freezes in April, including bonfires to warm up the vines and a helicopter to prevent warm air from rising. Want to weigh in on the deep freeze? Share your experiences and we'll publish them in the next Grape Press (rgarsson@gmail.com).



Courtesy of Cindy Schornberg / Keswick Vineyards

President's Corner

## A Spring Freeze Hits Vines

By Tom Kelly  
*Kelly Vineyard Services*

As we put this issue of Grape Press to bed, all of us at the Virginia Vineyards Association are thinking about the growers around the Commonwealth who were hit by as many as three separate freeze events that came on the heels of an unseasonably warm winter and spring.

It will be a while before we know how much damage was sustained. In the vineyards I service, Chardonnay buds were out after the second freeze event on April 6, and some had one leaf showing. The most advanced buds are mainly located on distal nodes of canes and long spurs. Most of those buds were lost in one of the first two freeze events mentioned above, though I suspect this represents less than 25 percent of the total count buds left at pruning.

I recommend to my clients who spur prune to employ a technique called double pruning where spurs are left long at about 6 or more nodes and only cut back to the required 2 "count" buds after those more basal buds have emerged.

Understanding that grapevines are apical dominant (meaning they tend to grow preferentially from their most distal points), the buds at the tips of these long spurs are the first to emerge while

## INSIDE

### Regional Reports

Harvesting by moonlight has its advantages, and other news and insights from growers around the state.

PAGE 3

### Vine Buying Tips

You're right to be concerned about viruses in grapevine material. Here's an update from California regarding what you should know.

PAGE 6

### Shoot Thinning

Bring order to the vineyard and set the stage for next year.

PAGE 7

## Lessons Learned From the Loire

By Bruce Zoecklein  
*Professor Emeritus, Virginia Tech*

In late 2015, a French colleague and I led our 10th Technical Study Tour, this time to the Loire Valley of France. For nine days, 18 growers and wine producers from Virginia and Pennsylvania toured a number of the valley's sub-regions.

The Loire is the longest, most rural and perhaps the most scenic wine region in France. It covers 125,000 acres, about half the size of Bordeaux. We followed the river past beautiful 15th, 16th and 17th century castles that were once the summer homes of French nobility. Participants

visited prestigious winegrowers and enjoyed the gastronomic pleasures of the region.

The following is a review of some of the more interesting features of this trip.

### Overview of the Loire Valley

Two main regions for the versatile Chenin blanc, also called Pineau of Loire, include Montlouis and Vouvray in the central Loire. Sauvignon Blanc is also extensively planted and occupies a special position in northern Loire, where soil and climate allow for the production of very flavorful wines. Cabernet

See LOIRE on page 9

See PRESIDENT on page 2

# VVA BOARD

## 2016

*President*

**Tom Kelly**

tom@kellyvineyardservices.com

*Vice President*

**Jim Benefiel**

jwbenefiel@aol.com

*Treasurer*

**Kay Thompson**

kaythompson@gmail.com

*Secretary*

**Aimee Henkle**

aimee@lostcreekwinery.com

*Advisor*

**Dr. Tony K. Wolf**

vitis@vt.edu

*Business Manager*

**Tracy Kirkman**

vavineyardsassoc@gmail.com

*Grape Press Editors/Production*

**Bob Garsson**

rgarsson@gmail.com

**Chris Garsson**

cgarsson@gmail.com

**VVA Mailing Address**

**P.O. Box 168**

**Waterford, Va. 20197**

**vavineyardsassoc@gmail.com**

Special thanks to:

Paul Anctil, Katie Hellebush,

Jim Law, Mizuho Nita, Ben Rowe,

Dean Triplett, Bruce Zoecklein



## PRESIDENT'S CORNER (cont.)

*PRESIDENT, from page 1*

growth of the base buds—those that we want to bear our crop—is significantly delayed.

This effect can be seen quite clearly in Chardonnay blocks where double pruning was employed as the distal buds were out, again to one leaf, and basal buds were still only at the dormant or advanced bud swell stage. These buds were spared from the damaging temperatures of the past two cold events. Had they been “finish pruned” to the two count buds, as would normally be done, my clients would have lost most of their entire Chardonnay crop already.

I was saddened to hear from a couple of growers in Central Virginia that they lost most of their early breaking varieties such as Chardonnay and Merlot to the freeze event on April 6th. We can only hope that the warm weather returns soon and stays around long enough to spare the rest of our crops this year.

The cold temperatures of late have not only affected the productivity of established vineyards, but are also having an effect on the planting schedules for many new vineyards. Those who have been fortunate enough to delay planting may not have issues, but those who put their vines in early may be looking at severe damage to their new babies if they were not able to protect them from the cold.

Temperatures for many areas around the state dipped into the mid-twenties — cold enough to damage the graft unions and tender woody tissue of newly planted vines. Due to the tight schedule of the labor crew I use, I was forced to plant part of a new vineyard on April 4th, two days before the damaging temperatures were to arrive.

I had little choice but to bury the vines under several inches of soil as we were planting.

We will now have to go back and uncover those vines in the coming weeks. This is not ideal as it increases planting labor costs substantially but it is better than risking the loss of all those newly planted vines.

On a more positive note, planning for the upcoming 2016 Summer Technical Meeting is well underway. This year's event will be hosted by Veritas Vineyards and Winery on June 8th and the topic will focus on sourcing clean (virus free) plant material.

With the help of Dr. Tony Wolf and the folks at Virginia Cooperative Extension, we have already lined up several expert speakers from both the worlds of academia and production.

As always, the technical event will be followed by our Annual Summer Social, where there will be plenty of food, music and of course great Virginia wine to round out the day.

I would like to return now to the subject of how best to deal with the departure of so many of our legacy board members, how best to avoid this situation in the future and how to broaden the talent pool for potential Association leaders. I received a lot of great feedback from the letter I put out back in early January and we had some great discussion on the subject during our Annual Business Meeting later that same month. The board took all that feedback into consideration and we have come up with a succession plan that we think will address all of the issues at hand with minimal “tinkering” with the Association Bylaws. The plan is as follows:

► We will ask the members to vote on a special proposition to allow two of the standing directors to extend their current terms by one year. This means their seats would not come up for re-election this year but next year — thereby establishing staggered terms for the board officers and maintaining a compliment of three legacy directors on the board to help transition the two new directors in.

► The board will create two new director seats. These new seats will broaden the talent pool on the board, reduce the impact of future officers departing and help to spread out the increasing workload of the current and incoming board officers. Both these seats will fall into the new staggered election cycle and will have the same voting privileges as the current director positions.

► The members will be asked to vote on the motion to strike the language in the Bylaws that restricts winery owners from serving as President, again in an effort to broaden the talent pool for recruiting future Association leaders.

As the implantation of our current strategic plan continues and the VVA undertakes several other new and exciting projects, the responsibilities and workload of the Board of Directors are certain to increase.

The new leaders of the Association will be ushering in a new era for the VVA, one that will secure a position of industry leadership for our Association, as well as provide our members with access to an exciting array of new tools and services that will help enhance grape quality, reduce inputs, and streamline business planning and the expansion of vineyard acreage in the Commonwealth.

The new projects that the current board is considering will be introduced and discussed in forthcoming issues of the Grape Press and at our future bi-annual technical meetings.

The future is bright for our Association and I look forward to all the new benefits that membership in the VVA will soon provide for grape growers in Virginia and beyond.

Until next time...

► **NO. VIRGINIA:** “We saw a new problem this winter ... mouse gnawing.”

By Dean Triplett  
Greenstone Vineyard

(Editor’s note: Dean’s article was written well in advance of the April freeze.)

The winter of 2015-16 has come to an end as I write this report. It’s March 12th and we’ve just had a nice little heat wave the past week, with temps in the mid-70s to low 80s. The forecast is for temperatures in the 60s today, and more 60-70 degree days for the foreseeable future.

Whereas last year’s winter seemed to hang on forever, this year’s just kind of vanished. I have yet to see any bud swell in the vines, but sap is flowing and it’s just a matter of time if the forecast holds true.

It doesn’t seem that long ago that we had record snow on the ground with high

temperatures in the 20s.

The storm of the century hit back on Jan. 22-23 and dropped 39 inches of snow up here on the Catoctin Ridge. Temperatures were in the 20s and edged up only as high as the low 30s for highs for four days after the snow event. Vineyard entry was basically impossible.

But fortunately, temperatures rose into the 50s shortly thereafter and melting proceeded nicely. We had three other snow events since, but none amounted to much and all were gone in a matter of a few days. The combination of the “big one,” plus all the little snow storms, has the water level in area ponds at their maximum height.

Temperatures were also all over the map.

The coldest temperature reported here was 3 degrees above zero on February 14. March has indeed started mild and looks

to probably stay that way. In the name of full disclosure I must report that I was in Florida during the entire Snowmageddon event, but I nonetheless felt everyone’s pain. Sort of.

Final pruning is well underway in my vineyard and all across the region. I have not seen much in the way of winter damage so far. Primary buds look fine in my Merlot and Albarino.

My main concern with winter damage is my Muscat Ottonel, but as of this writing those vines look fine. Unfortunately, until we start to get growth I won’t fully know whether they’ve come through unscathed. But at least I haven’t seen any obvious sign of trunk damage so far.

I’ve reached out through the Loudoun

See NO. VIRGINIA on page 4



**VINTAGE**  
NURSERIES  
a Wonderful company™

**PREMIER QUALITY FROM  
NORTH AMERICA’S LEADING VINE NURSERY**

Leaders raise the bar in everything they do and that’s why Vintage Nurseries continues to set the industry standards for vine cleanliness, improved irrigation methods and product selection. In the last year alone, Vintage has begun work on a new, state-of-the-art greenhouse facility, changed from wood to eco-friendly recycled plastic storage bins and callous boxes, and introduced new sanitization techniques.

From our 2010 Protocol mother blocks, to our advanced testing lab, the innovative new Vintage Root Sock and more, Vintage Nurseries strives to provide the cleanest, healthiest vines in the industry. It’s how we lead. It’s how we grow.

**ECO-FRIENDLY PLASTIC STORAGE BINS**





**VINTAGE NURSERIES’  
ADVANCED NEW TESTING LAB**

**PLASTIC CALLOUS BOXES FOR VINE CLEANLINESS**



**SERVING THE WINE, TABLE GRAPE, AND RAISIN INDUSTRIES**



**WASCO**  
661.758.4777  
**800.499.9019**

**PASO ROBLES**  
805.237.8914

**SANTA ROSA**  
707.542.5510

**VintageNurseries.com**





► **NO. VIRGINIA**

*NO. VIRGINIA, from page 3*

Wine Growers Association for input from my fellow growers and I've been lucky to have several take time during this busy part of the year to provide updates.

**Mitch and Betsy Russ, Russ Mountain Vineyards, write:**

We have just finished rough pruning. We are leaving two or three replacement canes for each trunk of our mostly double trunked vines as insurance against breakage of the first attempt to lay down the new cane.

We also noted quite a few irrigation wires broken at the attachment to the end posts. We speculate that the three feet of heavy, wet snow put too much stress on this point.

So far the vines look ok, but we are concerned about more winter kill from the previous two sub-zero winters, as we saw additional lead reddening on some vines after harvest but before leaf fall. Hope we're wrong.

**Bill Hatch, Zephaniah Vineyards, writes:**

We think we have pretty decent bud survival so far. We just finished our rough pruning on 7.5 acres at the home place. This year we left 6-8 buds on all varieties until finish pruning begins in March.

Kicker canes and renewal trunks were left as much as possible.

Merlot and Vermentino are both poster children for winter damage in the Zephaniah Vineyard.

We saw a new problem this winter. About 10-15 Vermentino 2nd leaf vines died of what appears to be mouse gnawing. I hypothesize that many mice made their home over the winter in the deep grass left in an un-planted area adjacent to the damaged vine. The mice burrowed extensively under the 40 inches of mid-January snow.

I remember mice need to gnaw to keep their front teeth from growing too long. The young gnawed vines were just what the "snowed in" mice were looking for to satisfy their rodent teeth needs. The solution to this death by gnawing might be to mow this tall grass to diminish mouse habitat.

**Nate Walsh, Winemaker / Vineyard Manager at Sunset Hills, writes:**

Thus far, we're not seeing any significant winter bud damage, and have not had any temperatures at any of our sites that would indicate it will be a problem. However, it has been a wet winter, and it looks like it will remain wet for the next few weeks. So if we see an earlier Spring this year I would expect to see some trunk splitting in

the wetter sections, as well as rapid Spring growth.

We hilled up about five acres of new plantings in hopes to prevent damage to the unions of the winter. Obviously, once you do that, it won't get too cold.

**Chris Blosser of Breaux Vineyards had his vineyard manager Gonzalo Ortiz, submit the following report:**

Rough pruning was halted for the first two weeks of January. Multiple 70 -degree Fahrenheit days in December caused activity in vines that should have been completely dormant.

Buds were swelling and (especially some Merlot vine buds) were beginning to open (woolly). This was followed by sharp decreases in temperatures, and then erratic increase and decreases. While the lowest temperatures we had, on site, would not necessarily cause alarm on a "normal" winter.

With the level or lack of dormancy so early in the winter and equally such fluctuations in high and low temperatures I expect a higher percentage not only of bud mortality, but also vines that were already struggling to be at risk of complete plant mortality.

In that time period on this property ornamental trees were budding. One such tree pushed evenly distributed leaves in the first week of January.

I can agree with Gonzalo that early January was kind of weird. I had a rhododendron put out flowers on the west side of my house and ornamental cherry trees in my neighbor's yard did the same. But again, as of now I have not seen any serious signs of damage in the vineyard. As usual, we'll just have to deal with everything Mother Nature tosses our way. And as always, I'd like to thank my fellow growers for taking time out of their busy schedule to give us their input.

As I end this report I want to remind Virginia growers of the Vineyard Site Evaluation Report web site sponsored by Virginia Tech.

If you haven't been to it before I urge you to check it out at: [www.cg.it.vt.edu/vineyards](http://www.cg.it.vt.edu/vineyards). Click on "access the tool here".

It's a great web site that can really help in gaining knowledge about a potential site or an existing vineyard. It's an excellent example of how our researchers are helping us be better growers.

**Winemaking Consultant**  
[www.winemakingconsultant.com](http://www.winemakingconsultant.com)  
**Thomas J. Payette**  
 Over twenty-five years of winemaking in  
 Virginia, Napa and East Coast  
  
 Multiple Governor's Cup Winner  
 2011 Wine Productivity Trophy  
 "1999 Winemaker of the Year"  
**Phone : 540.672.0387**  
[winemakingconsultant@gmail.com](mailto:winemakingconsultant@gmail.com)  
**Winemaking solutions focusing on:**  
 Winery and vineyard start-ups  
 Still and sparkling wines  
 General winery issues  
**Food Science Degree – Virginia Tech**

## ► SO. VIRGINIA: “There is something magical about working in the moonlight.”

By Paul Ancil  
*Sans Soucy Vineyards*

(Editor’s note: Paul’s article was written well in advance of the April freeze.)

By the time everyone reads this edition of Grape Press, we will be in full bud-break throughout the state. And, like me, everyone’s stress level will shift into overdrive.

I just finished the last of our final pruning. The hazards of early spring in Virginia are particularly worrisome, especially here in the southern tier of the state. Every year around Easter we seem to get some dangerously cold weather that threatens the newly sprouted young shoots. At this very moment some of my younger vines are trying to unfurl that first delicate leaf. And wouldn’t you know, that on April 3 and 4, we may see temperatures down into the low 30’s! Ouch!

Rather than just deliver the usual “RFD 2, Gossip and News” column, (does anyone even remember those in local newspapers?) I thought I might share with you two vineyard practices I use to ameliorate the threatening vagaries of local weather.

First, I double prune in our vineyard. The first rough pruning is typically done in December. The vines are dormant but the weather is not too bitter. This is pretty much a “no-skill-required” function of cutting away the spent canopy from the support trellis, with the goal of leaving a stem of about 10-12 inches.

We all have problems finding workers, let alone skilled workers. So this can be performed by pretty much anyone with little supervision. Depending on the varietal, we may have between 10 or 15 buds on that long stem.

Then, in March, I go like



Courtesy of Paul Ancil

crazy to cut back to the classic two-to-three bud spur. A harsh winter tends to destroy the dormant buds starting at the tip of the 12-inch stem and then works back toward the cordon end of the stem.

The final pruning is done when the sap is freely running in the stem.

I don’t know if there is scientific support for my theory, but it seems that the free flowing sap releases the “hydro-static” pressure extant in the vine and delays the budding-out for a few days, sometimes by as much as a week. That may not seem like much but for me at my vineyard that extra time can be crucial.

Another vineyard management technique we use here is night-harvesting. I think this is probably one of the most significant adaptations to harvesting that anyone can perform in Virginia. Some varietals are ready in late August, early September. It is still pretty damn hot out there.

Fruit sitting in a lug waiting to be collected and transported to the winery can degrade quickly. The hot sun starts the souring process no matter how carefully the fruit is handled. Birds, flies, bees, and other insects are drawn to fruit and leaking juice.

Harvesting at night eliminates all this. The fruit is in the winery in the cooler

**Night harvesting at Sans Soucy Vineyards takes advantage of the cooler temperatures, which keeps the workers and the fruit out of the hot sun.**

usually by 7 am. My wife and I will host a light harvest celebration breakfast. I can leave the fruit alone in the cooler until I’m ready to start the next round of winemaking.

There are a number of advantages, starting with the workers. At first I thought they would represent my highest hurdle: finding people who want to start picking at 1 a.m. To the contrary, they love it. No sunburned necks. No stings from bees, hornets, etc. No dehydration.

And I could go on. We all know how unpleasant harvesting can be. One harvest a couple of years ago had to be done quickly during daylight due to the approach of severe weather. To a person, everyone said, “please, let’s go back to night-harvesting”

Then there are the tools. Everyone wears an LED headlamp. They cost anywhere from \$5 to \$10. The lamps easily position and focus directly into the work area. We do significant leaf pulling, so the fruit is not hard to find. I position my tractor in the row we are working to illuminate the general work area. My tractor has headlamps on the front and back, so I get pretty good coverage.

Then, either I, or one of the more experienced members of the crew, will make a quick pass back through looking for any fruit that might have been missed (and there’s usually not much).

Is this worth the effort? I think it is: happier workers, happier fruit, and a happier winemaker. There is something magical about working in the moonlight and cool breezes.

It’s worth a try.

# Do Your Homework When Buying Vines

By John Everson  
*Springlot Vineyard*

On Jan. 29, the California Department of Food and Agriculture (CDFA) released draft regulatory language to add Grapevine Red Blotch — associated virus (GRBaV), the pathogen for Red Blotch disease — to the list of viruses that are required for testing of vine material under the California Grapevine Registration and Certification Program.

Ultimately, this GRBaV testing requirement, new sampling requirements and testing protocols will be added to the current list of viruses tested which includes Leafroll, Fanleaf and Tomato Ringspot. A full transcript of the draft and a brief overview of the Registration and Certification Program, the National Clean Plant Network (NCPN) and Protocol 2010 standards for vine testing and propagation is available at: <http://www.cdffa.ca.gov/plant/pe/nsc/nursery/grapevine.html>.

This is important because it formalizes changes to the regulations that were last updated in 2010, addressing many of the issues in efforts to provide high-quality pathogen-free vines.

As a grower, there is nothing more disheartening than to see your hard work turned upside down by grapevine material that is either poor quality or compromised by pathogens. Generally speaking, the material we order from commercial nurseries will do just fine. Just remember that we are ultimately responsible for ensuring that we order and receive high quality pathogen-free material.

That means getting smarter and staying informed when there are disease and propagation issues that impact the industry. Get and stay involved in the process, visit the nurseries you may buy from, review material testing protocols and results, review traceability histories of material expansion beds and mother vines, discuss cleanliness and pest management in the nursery.

Last November I attended two events in northern California and spent a half day with Dr. James Stamp, Ph.D., a viticultural consultant.

The first event, Foundation Plant Services Meeting at UC Davis, is an annual meeting of researchers, scientists, and grapevine nursery personnel. An update to new Protocol 2010 grapevine introductions and releases, testing protocols, virus issues, and additional research efforts was provided. Additional presentations were given by CDFA and NCPN personnel.

Attendance is free and only requires pre-registration to attend. With the exception

of two folks from Cornell, I was the only attendee from out of state, but I think many Virginia growers would find it very useful. For detailed information and meeting minutes go to <http://fps.ucdavis.edu>.

Rootstock, the second event, is a symposium and trade show sponsored by the Napa Valley Grapegrowers that focuses on the viticultural side of winegrowing. It is sort of a “Unified” without all the hype, and it featured two excellent seminars.

The first, titled “The Future of Genomics and Genetic Tools in Plant Breeding,” featured a number of excellent speakers: Dr. Carole Meredith, Professor Emeritus, University of California, Davis; Dr. Marc Fuchs, Associate Professor, Cornell University; and Dr. Andy Walker, Professor & Chair of the Horticulture and Agronomy Graduate Group, UC Davis.

The seminar provided an in-depth look at the use of genomics and genetic tools in plant breeding for the wine industry. Dr. Meredith’s overview of the tools we have to look at all the genes of an organism, their interrelationship to each other, and the way grapevines relate to the environment and pathogens was extraordinary. Dr. Walker walked us through the work he has underway aimed at increasing vine resistance to disease and pests. His focus on Pierce’s Disease and the incorporation of PD resistance from *Vitis Arizonica* to commercial varieties through traditional plant breeding methods — followed by a tasting of three of those vines — was certainly a highlight of the session.

The second seminar, “Farming for Flavor – Roadmap to Style,” featured two speakers: Dr. Justine Vanden Heuvel, associate professor, Cornell University, and Garrett Buckland, a partner with Premier Viticultural Services.

The focus of this seminar was Cabernet Franc and the biochemistry and cultural practices that influence final wine aromas and style. Emphasis was on the “green” aromas and flavors sometimes found on Cab Franc: Methyl Pyrazine, which leads to green pepper flavor or aromas; C-6 compounds, which result in leafy or grassy notes; and Demethyl Sulfide, which produces slight sweetness at low levels, olives at medium levels, and cooked cabbage at high levels.

The trade show was all about growing with an emphasis on equipment and technologies to assist the grower. All the major nurseries were present, and I spent time with all of them.

In between the two meetings I drove to Sebastopol and spent a morning with Dr. Stamp, who has authored or co-authored with Dr. Alan Wei, Ph.D. many of the articles most of us have been reading since early 2008 on

grapevine pathogens and industry issues. Many of these articles and an 80-page power point presentation can be found at: <http://www.jamesstamp.net>

Our discussions confirmed a number of my own observations:

Nursery Trends and Consolidation. Over the past few years there has been some consolidation in the grapevine nursery business. All of the nurseries are making major capital investments in new facilities and blocks that are well away from existing planting areas to minimize the possibility of diseases and vectors.

All these nurseries will be incorporating CDFA Certified Protocol 2010 rootstocks and scion materials. “Clean room”-like propagation facilities will be the norm. Cleanliness and sanitation throughout the grafting, callusing, finishing and storage or potting will be essential to clean high-quality finished vines.

Dr. Stamp’s article on, “Sourcing Grapevines” provides an excellent summary on dormant vs green vines. Record keeping and documentation by the nurseries will be essential to the “transparency and traceability” of all sourced materials.

Disease testing panels and protocols: Detailed information can be found in Chapter 7 of the “Grape Pest Management” (3rd edition) available from University of California Division of Agriculture and Natural Resources and from these websites: [agri-analysis.com](http://agri-analysis.com) and [eurofinsus.com/stalabs](http://eurofinsus.com/stalabs).

New Issues: Pinot Gris virus has been found in four Northern California vineyards. It was previously thought to be only in Europe. Pierce’s Disease in the North Coast has become a major problem with a new vector – the blue green sharpshooter.

To summarize:

“Trust, but Verify” when it comes to ordering vines. Leafroll and Red Blotch will continue to be in the system for at least two more years. Viruses are graft transmissible and Crown Gall is still problematic. Inspect the vines when they arrive, document and reject all suspect vines.

Cooperate and Graduate. We need to pay attention and when possible be involved and support the groups working hard to provide pathogen free material. In driving through Napa and Sonoma it was a shock to see how much acreage is being pulled out for eventual replanting due to viral, Pierce’s Disease or other issues. An 18-month minimum fallow period is recommended before replanting, and that’s assuming the rootstock-scion combinations we want are available.



# Shoot Thinning Tames the Chaos

By Jim Law  
*Linden Vineyards*

Shoot thinning is the most satisfying of all vineyard operations. There is immediate gratification in transforming a disheveled mass of random green shoots into an orderly, balanced canopy structure.

This can all happen at about a minute per vine. Fingers are the only tools required. The weather is usually textbook perfect (early/mid May).

Shoot thinning is a continuation of pruning. Uniformity, spacing and direction of shoot growth are fine-tuned. Shoot thinning is arguably the greater determinant of potential yields. When done by skilled workers (as it would have to be), it sets the stage for the next year's pruning and training decisions.

## Timing

Six to eight-inch shoot length seems to be the sweet spot. The shoots snap off easily, clusters are visible (or not visible in the case of blank shoots), and shoot direction is apparent. In a wet early spring, if phomopsis was an issue, the infection scarring can sometimes be evident. Affected shoots can be culled out to some degree.

Frequency is dependent on training system, variety, and vine age. Cane pruning has a significant advantage over cordon trained vines. There are few latent (blind) buds in cane pruned vines. One thorough thinning with a second quick "sucker clean up" during leave removal is adequate.

However, cordon training requires several passes with most varieties. Petit Verdot, Cabernet Franc and Sauvignon Blanc seem never to cease throwing out new shoots from older wood (trunks and cordons). In order to prevent a veritable mess in the fruit zone, cordon pruned versions of these varieties require up to three passes per year.

The shoots of Chardonnay and Petit Verdot remain very fragile, easily breaking off until around bloom time. It is possible to lose a third of retained shoots in one windy thunderstorm. To mitigate this kind of potential damage, we often leave a few extra shoots, especially in the renewal head zone of cane-pruned vines.

## Strategies

Hardscrabble Vineyard has a plethora of varieties, clones, soils, slopes, training systems and vine ages. Each block is treated differently. All vineyard workers have many years (in some cases decades) experience with

these blocks. These same people pruned the vines and will manage the canopy and harvest the grapes. I cannot stress how important this is in achieving precision in any vineyard.

Perhaps the most important instruction in any given block is the number of shoots to retain per vine. This varies considerably and is mostly dependent on historical average cluster size. The best example would be our Chardonnay.

Hardscrabble has two very different Chardonnay clones. Clone #4 (also known as clone 108) has massive clusters potentially averaging 250 to 300 grams (over half a pound). Clone #72 clusters are small, loose and often have hens and chicks. They average less than 100 grams.

Clone #4 vines are 20 to 30 years old and can easily be over cropped. They are shoot thinned down to 2 shoots per foot. Most vines are spaced at 6', so an average of only 12 shoots per vine is retained. On the other

hand, clone #72 struggles to get economic yields, so we basically leave any shoot with a cluster, as long as the fruit zone does not get too crowded.

These are extreme examples, but generally Riesling, Sauvignon Blanc, Petit Manseng and Carmenère are allowed up to 4 shoots per foot, whereas Cabernet Franc, Cabernet Sauvignon, Merlot, and Petit Verdot average about 2.5 shoots per foot.

Average is an important concept. We use a balanced pruning concept. The pruner evaluates the previous season's vigor by assessing number and size of canes, and then adjusts the retained cane length accordingly. This serves as a way of communicating individual vine capacity to the person shoot thinning. Shorter canes will have less shoots retained.

This concept is especially important if a block has many replants of varying ages and vigor capacities.

**WINCHESTER EQUIPMENT COMPANY**  
Agricultural, Construction, Material Handling Equipment  
Since 1957

**Cima** **Rinieri**

**Introducing a new partnership between  
BDi Machinery and Winchester Equipment.**

# Guard Against Phomopsis

By Mizuho Nita  
*Grape Pathologist, Virginia Tech*

The first in-season disease to be considered is Phomopsis cane and leaf spot. They produce spores on old infected cordons and trunks during the spring, and they can infect tissues even if the temperature during a rain event is in the 40s.

Unfortunately, the only option we have to use against this disease is a protective application of fungicide, such as mancozeb, captan, and Ziram. Studies in Michigan show that a phosphite salt such as Prophyt and Phostrol can be effective against Phomopsis. You could also use a QoI fungicide such as Abound and Pristine; however, I would recommend keeping them for the later part of the season.

Since they can be active during a cold rain event, my recommendation is to protect even when shoots are about 1-3 inches long. The decision to spray for Phomopsis also depends on the history of the vineyard or vine.

The vines with previous history of Phomopsis tend to carry the disease year after year.

Let's use our vineyards as examples. As with other years, the bud break was followed by warm rain event in 2015. At our Chardonnay vineyard, bud break was around 21 April, and then we received two 12 hour periods of wetness on April 24th and 25th, with an average temperature of 40 degrees Fahrenheit.

These rain events constituted borderline cases of Phomopsis infection risk. (Note: If you are wondering, it was too cold for black rot.) We did not have a chance to apply fungicide before the rain.

However, I was not too concerned about missing the spray, simply because we have not seen much Phomopsis in the past in this vineyard. Thus, the risk of Phomopsis in this particular vineyard should be very low.

On the other hand, until 2014, we had a 24-year old Cabernet Sauvignon vineyard right next to the Chardonnay vineyard. For this one, I would have made sure I protected the shoots as soon as they come up because these vines tend to get a fair amount of Phomopsis every year.

Some of you are still working on your pruning. This is not a bad thing in terms of disease management. The later the pruning time, the faster the pruning cuts heal.

Pruning wounds are entry points for trunk diseases such as Botryosphaeria canker, Esca, and Eutypa dieback. Among these, Botryosphaeria is a very common fungal disease for our region.

These fungal pathogens require water for their infection, thus, please make sure to avoid pruning before rain.

We have a special label in Virginia for the use of Topsin-M, and a supplemental label for the use of Rally. Both are effective against Botryosphaeria canker and Eutypa dieback. For the rate and the method of application, please refer to the label (which can be downloaded from my blog, [grapepathology.blogspot.com](http://grapepathology.blogspot.com)). You are required to have these labels for the application.

In addition, there is a new product called B-Lock and VitiSeal, which basically are latex paints with boron. A study in CA has shown a very good efficacy against Esca, which is another trunk disease, and Eutypa.

Lastly, please be sure to remove old woody tissues (especially old trunks and cordons) away

from your vineyards. A fungal species such as Botryosphaeria can survive and produce spores on these old tissues, and there is no good reason for you to keep them on the vineyard floor.

Smaller, first-year canes can be gathered in row-middles to be mowed over, and larger cordons should be taken off from the vineyards to be burned.



Courtesy of Mizuho Nita

Phomopsis lesions on a shoot.

# A Legislative Update from the VWC

By Katie Hellebush and Ben Rowe  
*Virginia Wine Council*

The 2016 Legislative Session has drawn to a close, and the Virginia Wine Council (VWC) is proud to report on the advocacy we have completed on your behalf.

This session was punctuated by an increased number of threats to the Virginia wine industry, and long-fought battles that posed a risk to the rights of the Commonwealth's wineries, cideries and vineyards. As the size and profile of the industry grows, you will continue to see increased threats and challenges to the way you do business, so it's more important than ever that the industry retain a strong presence in Richmond.

This year featured a "long session" (a full 60 days versus the 45-day sessions held on odd-numbered years) and we found ourselves dealing with a long list of legislative proposals that would affect the Virginia wine industry. In addition to protecting funding for the Wine Promotion Fund, the Virginia Winery Distribution Company (VWDC), and other budgetary priorities, the VWC advocated for a full legislative agenda of initiatives.

The VWC successfully developed and advocated for the passage of HB654/Garrett and SB569/Ruff which redirects the proceeds of the cider markup (liter tax) from the state's general fund into the Wine Promotion Fund. This change has zero fiscal impact on cideries, and the funds can now be used for marketing, promotion, and education related to cider and wine, as well as funding events like Virginia Cider Week. The return on investment from these additional resources will greatly benefit the growth of the industry.

The VWC worked with Sen. Richard D. Black (R-13th) to pass SB758, a bill allowing farm wineries to trade their fruit amongst themselves without violating the state requirement that at least 51% of their fresh fruit be grown on-farm. This gives farm wineries the ability to trade grape varieties they have in surplus with another winery for

See LEGISLATIVE on page 9





Courtesy of Bruce Zoecklein

By growing vines through a stone wall, Chateau de Parnay advances the harvest date of its Chenin Blanc. The roots of the vine are on the north-facing side of the wall.

## Loire Valley

*LOIRE, from page 1*

Franc (or Beton as it is called locally) is also planted in the center of the valley in the regions of Touraine, Chinon, Bourgueil, St. Nicholas-de-Bourgueil, and Saumur-Champigny. In the western part of the valley the principal grape variety is Melon, which produces the famed Muscadet.

Of the Loire Valley's various soils, the most significant is the chalky limestone. In the upper or eastern part of the Loire the soils are rich in limestone and tuffeau (a calcareous rock, like soft limestone). In the lower Loire (western part near the Atlantic), the hills are mainly sand and gravel. These soils are present throughout the rest of the valley as well.

Many of the sub-regions of the Loire are on the climatic edge, not always allowing optimum ripeness. As such, global climate change may be working in their favor.

Relatively high temperatures from mid-June to mid-August coincide with low rain fall. As such, vines are frequently moisture-stressed in the last stage of ripening. Surprisingly, the average total sunshine hours are about 1900 hours/year, about the same as Champagne. There are many commonalities to VA

viticulture, including cultivars, spring frost and substantial vintage variation

### **Biodynamic Viticulture and Winemaking — Really?**

Most of the French vigneronns we visited seemed to me to embrace the philosophy of Pierre Teilhard de Chardin (expressed in his book *The Phenomenon of Man*) and that of James Lovelock (Gaia hypothesis) — that the earth is influenced by life to sustain life, and that the planet is the core of a single, unified living system. As such, issues like climate degradation, vineyard chemicals and wine additives are a large concern. This attitude may help explain the widespread interest in biodynamic (BD) viticulture and winemaking we observed.

Biodynamic agriculture stems from the suggestions of Rudolf Steiner (1861–1925) and was initially developed in the 1920s. In a trip to the Loire in 2004, I visited Nicholas Joly, the proprietor of famed Coulee de Serrant in Savennieres, a true sophist and evangelistic disciple of Rudolf Steiner.

Since then, the interest in BD has certainly spread. We asked virtually every winegrower: Why BD? A typical response was offered by Evelyne de

*See LOIRE on page 10*

## Legislative

*LEGISLATIVE, from page 8*

grapes they need to fulfill their production needs, while counting the grapes towards their 51% requirement.

We also laid the groundwork during the 2016 session for HB1314, carried by Del. Timothy D. Hugo (R-40th) and SB717, carried by Sen. David W. Marsden (D-37th) which would create a vineyard expansion grant. SB717 passed the Senate with a strong vote of 36-3. But the House voted to carry over both bills to 2017. This will give the VWC and the industry time to educate legislators on the bill, develop a funding mechanism and bring the bill forward in 2017 for approval.

In addition to introducing and supporting winery legislation, a large part of what we do focuses on opposing and amending legislation that would negatively impact the industry. A prime example of that has been the ongoing land-use debate during the 2016 Session.

In its original form, HB879 would have restricted the licensing of all future farm wineries and limited breweries to land zoned agricultural. It is new territory for Virginia to restrict where farm wineries may open. The bill would have prohibited new operations from opening on un-zoned lands, or lands with other zoning designations that do allow agriculture, or localities that do work diligently to attract farm wineries, recognizing their positive economic impact to communities across the board.

The bill was amended in committee and then was further worked on by a committee of conference. The amendments addressed (1) the definition of “land zoned agricultural” to ensure it fits with the intention of the bill but does not restrict localities zoning authority (2) grandfathering language for the 270 farm wineries open today and those in the final processes of opening who will apply for and have a pending ABC license before July 1, 2016 and (3) whether the two current farm wineries on land zoned “residential conservation” would have the ability to expand in the future or whether they would simply be frozen in time.

The bill has advanced to the Governor's desk where he will consider it and has the opportunity to make changes, sign and approve, or veto as he sees fit. It will then come back to the General Assembly during the “Veto” Session April 20.

Please share this important update with your local economic development officials and those who are new to the industry, have a vineyard and/or are considering a farm winery in the future. We encourage you to be in touch your staff, Katie Hellebush and Ben Rowe, at the Virginia Wine Council at 804-726-6021 to be sure you understand the impact this may have to your farm winery.

We thank the Virginia Vineyards Association and all of your members for your support of the Virginia Wine Council's efforts as we fight for you!

# Loire Valley

LOIRE, from page 9

Pontriand of the prestigious Domaine Luneau Papin in Savennieres: “we want to highlight the full expression of our terroir”

The principles and practices of biodynamics are based on a philosophy called anthroposophy, which includes understanding the ecological, the energetic, and the spiritual in nature. For a wine to be labeled “biodynamic” it has to meet the standards laid down by the Demeter Association, an internationally recognized certifying body.

I find it interesting that BD would be so widely undertaken in the absence of scientific justification, particularly with high valued vineyards, and considering it is reported to add to the cost of production (estimations ranged from 25-35% more). It did not appear that the pursuit was directed towards green-washing (simple hype for marketing purposes), but rather a true and sincere philosophy.

BD is an excellent example of how we think about knowledge and how new information is attained. The principle of empiricism was proposed by John Locke, who thought that true understanding can only be acquired by our own experience. This is contrasted by what we now call science — the rationalism of René Descartes, who suggested that reason alone, unaided by the senses, yields knowledge and comprehension of the world.

The dual roles of these two are critical infrastructures to our industry’s development. It seems as though an ever-increasing number of industry members rely more and more on empirical knowledge. After all, experience enables us to recognize a mistake when we make it again!

The problem with empiricism or relying solely on observation is the possible blurring between cause and effect, and the reality that our senses can be errant. For example, a stick in water looks bent, but is not. On the other hand, science does not, and can not, have all the answers.

For better or worse, inconsistencies between science and empirical observations have directed some to lose faith in the infallibility of science to completely coordinate and guide our technological advancement. BD may be a good example. Science has, for the most part, not provided the justification, allowing skeptics to argue it is more of a religion than a logically sound-based practice.

We live in an age where all manner of scientific knowledge from vaccines to

climate change are questioned. Empowered by our own interpretations of research information, we are free to selectively choose what to believe and what not to believe. The fact that BD is not normative and may not be supported by science does not blunt the enthusiasm of many. As Nicolas Joly told me, “Conventional, chemical-based agriculture does not allow the vine to develop properly. It is like only half tuning an instrument, the music will not be harmonious”

Beyond the vineyard, a surprising number of vigneronns told us they practice biodynamic principles in the winery. The BD calendar is based on the zodiac, a group of twelve constellations of stars which the sun, moon and all the planets pass on their circuits. Days of the year are divided among

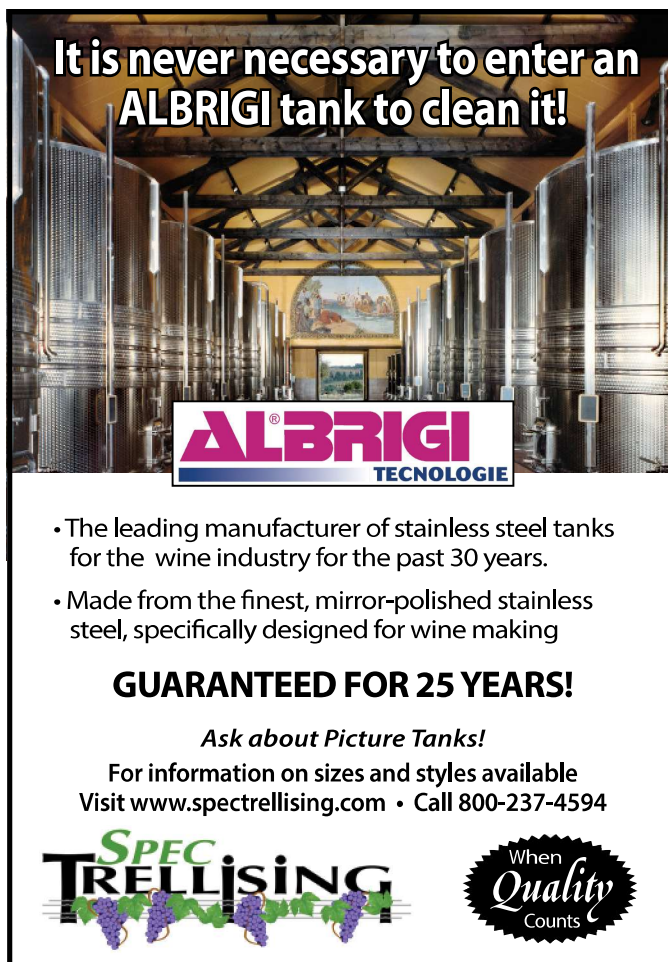
four types: root, leaf, flower and fruit/seed.

Accordingly, BD shamans suggest wines should be fined and/or racked only on certain days which allow for the greatest sedimentation to ease decantation based on the celestial calendar. The same is true for sensory evaluation. Many stated they evaluate their wines on ‘tasting days’.

In this bewildering world of ours we have to decide what to believe and how to act on those beliefs. Science is not a body of facts, but a method of deciding whether belief has a basis in the laws of nature or not. As such, scientific results are always provisional, susceptible to being overturned by future experimentation or observation.

Science appeals to our rational brain, but

See LOIRE on page 11



**It is never necessary to enter an ALBRIGI tank to clean it!**

**ALBRIGI**  
TECNOLOGIE

- The leading manufacturer of stainless steel tanks for the wine industry for the past 30 years.
- Made from the finest, mirror-polished stainless steel, specifically designed for wine making

**GUARANTEED FOR 25 YEARS!**

*Ask about Picture Tanks!*

For information on sizes and styles available  
Visit [www.spectrellising.com](http://www.spectrellising.com) • Call 800-237-4594

**SPEC TRELLISING**

When Quality Counts



# Loire Valley

*LOIRE, from page 10*

our beliefs are largely motivated by emotion. The biggest motivator is our association with our peers, referred to as conformational bias. Even when we intellectually accept the precepts of science we may subconsciously cling to our intuitions. The simple fact is that BD customs are volitional and would not continue if there was no benefit. Perhaps those of us that are skeptics may need to recall the old adage—It is what you learn after you know it all that really counts!

## The Terroir Factor

Virtually every winegrower visited reminded us that the full expression of the vine is not realized without the proper match between cultivar, climate and soil. This is certainly demonstrated in the Loire with the broad diversity of soils, climate and cultivars.

Claude Papin, of Ch. Pierre Bise at Beaulieu sur Layon, in a previous visit (see Enology Notes #75 at [www.vtwines.info](http://www.vtwines.info)) explained why he does not grow Sauvignon Blanc in his region (the lower Loire): “It would mature three weeks later than in Sancerre, the consequence being increased herbaceousness, resulting in a simple varietal wine.

Brernard Baudry of Domaine Baudry in Chinon spoke of varietal vs. terroir wines, simple expressions of the grape compared to complex wines that fully incorporate the elements of the place (soil, sun, wind, etc). A similar philosophy was echoed by others regarding winemaker intrusions—too much “makeup” hides the true representation.

## Tasting the Terroir

Much has been written regarding the impact of soil on wine, although at times contradictory. Soil is a complex medium due to the multiple influences of texture, mineral composition, water, root-zone temperature, etc.

Each winegrower shared wines from their various terroirs, providing the group with unique sensory experiences that demonstrated the remarkable and pronounced differences that soils can bring.

For the most part, these tastings reflected the generalizations summarized by Gladstone (2011):

- ▶ Stony soils—high quality, high alcohol
- ▶ Calcium soil—high potential alcohol, high aromatics wines
- ▶ Clay soils—high extract, wines prone



Courtesy of Bruce Zoecklein

Another view of the Chenin Blanc vines at Chateau de Parnay, showing the vegetative part of the vine on the south-facing side of the wall.

to coarseness

- ▶ Sandy soils—light, aromatics wines

## Fruit Maturation

The number of days from bloom to harvest is an important fruit and wine quality parameter. Indeed, the term “hang time” is well established in our lexicon.

Domaine Luneau Papin (Savennieres) and Domaine Patrick Baudouin (Chaudefornds sur Layon) are evaluating hang-time in an interesting way.

Traditionally, we have used days from set to harvest as a calculus. They are using an adjusted approach by measuring exactly when the vine produces the maximum glucose and fructose sugars, and harvesting at intervals thereafter. Simple 5-7 day spans post-sugar maximum resulted in large qualitative differences in both the aromatic and mouth-feel features of Sauvignon blanc.

A tasting for the group highlighted the effect on stylistic winemaking.

## Evaluation of Moisture Stress

Relatively high temperatures from mid-June to mid-August coincide with low rain fall in the Loire. As such, vines are frequently moisture-stressed in the last stage of ripening. Too much stress can have a dramatic and negative effect on subsequent wine quality. Except for young vines, most French AOCs forbid the use of vineyard irrigation.

At Domaine Patrick Baudouin moisture stress is evaluated by remotely monitoring canopy leaf temperature. Moisture-stress causes a slight change in leaf temperature, allowing for crop level adjustment to help relieve vine stress when needed.

*See LOIRE on page 12*

## WINCHESTER EQUIPMENT COMPANY

Agricultural, Construction, Material Handling Equipment

Since 1957

### VINEYARD TRACTORS AND SPRAYERS

New Holland - Kubota - Durand Wayland

### Tim Gano

Cell: (540) 533-5667

121 Indian Hollow Road Winchester, VA 22603

540-667-2244

[www.winchesterequipment.com](http://www.winchesterequipment.com)



# Loire Valley

LOIRE, from page 11

One important reason for the strict AOC yields in France is to assure that crop load levels do not slow the rate of fruit maturity. I discussed the importance of the rate of fruit maturation in a previous edition of the Grape Press (Winter 2014). Interest in the maturation rate was particularly evident during a previous visit to Domaine des Rogelins-Varrains Chace.

Cabernet Franc parcels of less than a 2-3 acres are surrounded by 7- to 9-foot-high rock walls, not for their fine aesthetic value, but because they increase heat retention and advance the season by an average of 10-14 days.

At Chateau de Parnay at Saumur, Chenin blanc vines were planted and trained through a stone wall. The vegetative part of the vine is on the south-facing side, the roots the north side of the wall. This advances the harvest date substantially. The precocity of the phenological stages of plant growth is an important factor in grape and ultimate wine quality in this region.

## Terracotta Wines

One of the more atypical winemaking practices we noted was at Domaine des Grandes Vignes. Here we tasted Cabernet franc produced in terracotta amphoras, a practice established some 8000 years ago. The most famous of these wines today are the Georgian qvervri, usually made from white grapes.

Cabernet franc grapes were destemmed and the must placed in clay vessels for 6 weeks to complete the fermentation. After pressing, wine is returned to the vessel which is buried for 10 months. Following elevage wines are sulfured, filtered, and bottled. These products were rustic, with slight, but not overly oxidative tones, a distinctive aromatic mix reminiscent of berry fruit and white tea.

The Loire Valley has long been described as exemplifying la douceur de vivre, the good things in life. A visit to this scenic wine region should be on every grower and producers bucket list.

*For a discussion of previous Technical Study Tours and to learn about future trips visit my Enology-Grape Chemistry Group web site at [www.vtwines.info](http://www.vtwines.info).*

*Reference: Gladstones, J. 2011. Wine, Terroir and Climate Change. Wakefield Press.*

## 2016 TECHNICAL STUDY TOUR: ITALY

A 7-day Technical Study Tour of north eastern Italy will be led by Bruce Zoecklein, Enology Professor Emeritus, Virginia Tech, and Professor Pascal Durand, University of Burgundy.

This is the 11th Technical Tour that we have conducted. Previous travels have included Bordeaux, Provence, the Loire, the Rhone, Burgundy, Champaign, Alsace, Italy and Germany.

Several write-ups about our Technical Study Tours are posted at [www.vtwines.info](http://www.vtwines.info) under my Enology Notes:

- ▶ AOC's of Provence, Enology Notes #138
- ▶ Languedoc, the Rhone, Bandol and Casses, Enology Notes #152
- ▶ Spain and Bordeaux, Enology Notes #164
- ▶ Loire Valley, Enology Notes # Enology Notes # 75

- ▶ \$3,900 for a single room, per person
- ▶ \$3,500 for a shared room (two people), per person

**Restrictions:** This Study Tour is limited to a maximum of 18 people and is restricted to commercial grape growers and winemakers only.

**Registration:** Industry members can register by mailing a deposit check of \$400 to:

Dr. Bruce Zoecklein, Department of Food Science and Technology, HABB 401J, Virginia Tech, Blacksburg, VA 24060. Make checks payable to Pascal Durand.

For more information: Contact Dr. Bruce Zoecklein at [bzoeckle@vt.edu](mailto:bzoeckle@vt.edu), 540 231 5325.

### Schedule

- 1) Sunday, Dec. 4: Venice  
Boscolo Bellini Hotel at Venice  
Meet at the hotel Venice – Welcome dinner
- 2) Monday, Dec 5: Soave & Valpolicella (Amarone)  
Morning: Azienda Pieropan at Soave

Lunch + Restaurant Enoteca Il Drago at Soave  
Afternoon: Azienda viticola Speri at Pedemonte & Azienda Ca dei Maghi at Fumane  
Dinner at the hotel, Ca dei Maghi Hotel

3) Tuesday, Dec 6: Bardolino  
Morning: Azienda viticola Speri at Pedemonte  
Lunch: Restaurant La Loggia Rambaldi at Bartolino  
Afternoon: Azienda Castel Noarna at Noarna di Nogaredo  
Dinner at the hotel, Hotel Revoreto

4) Wednesday, Dec. 7: Alto Adige  
Morning: Azienda Castelfeder at Cortina s.s.d.Vino  
Lunch: Agritur Planitzer at Castelrotto  
Afternoon: Azienda Manincor at Kaltern @ Weingut Griesbauerhof at Bozen-Balzano  
Dinner: Restaurant Patscheiderhof at Bolzano  
Hotel Bolzano

5) Thursday, Dec. 8: Valdobbiadene (prosecco) and Friuli  
Morning: Azienda Alessandro Bortolin at Santo Stefano Valdobbiadene  
Lunch at the winery  
Afternoon: Azienda Il Carpino at San Floriano del Collio  
Restaurant Lokanda Devetak at San Michele del Carso  
Hotel Franz at Gradisca d'Isonzo

7) Friday, Dec.9: Friuli  
Morning: Azienda Lis Neris at San Lorenzo Isontino  
Lunch: Restaurant Hosteria del Castello at Capriva del Friuli  
Afternoon: Azienda Livio Felluga at Brazzano di Cormons  
Dinner at Cormons  
Hotel Franz at Gradisca d'Isonzo

8) Saturday, Dec.10  
Morning: Nursery VCR at Rauscedo  
Lunch hosted by VCR  
Way back and farewell dinner at Venice, Hotel Venice