

## WINE Talk: August 2021

The newsletter of Living Wines: Edition 100

This newsletter is a bumper edition to celebrate the fact that it is the 100<sup>th</sup> newsletter we have produced for our customers since we sent the first one out in November 2008!

We hope you enjoy this newsletter and remember that all past newsletters are available to read on our Living Wines Web site.

**For a full list of wines currently in stock and their prices see:**

<https://livingwines.com.au/shop/>

**There is a link to our order form for these packs and any other wines at the end of this newsletter. But there's no need to use the order form. Just send us an email listing the wines and/or packs you would like to order if that suits you better. Or we are always happy to put together a selection for you if you give us a rough idea of the type of wines you like and a budget. We confirm orders by return email before processing them.**

**If you're not personally known to us or haven't already, please also provide your date of birth so we stay legal (a requirement of Tasmanian legislation.) You must of course be over 18 years of age to order.**

**Pack 1: Fanny Sabre New Arrivals (15% Discount)**

**Note: One pack only**



It is so good to see Fanny Sabre's wines back in Australia. We have been working with Fanny for a long time and we always look forward to her precise and delicious wines arriving on our shores.

We have set aside one pack of her wines including her amazing Aligoté which comes from a vineyard that her father planted in the hallowed soils of Pommard because wine made from Aligoté was his favourite drink. All of her wines are sold out except in packs in this newsletter.

We have also included three Pinot Noir wines – one from the Sainte-Marie-La-Blanche IGP, a Bourgogne rouge from plots around the city of Beaune and her highly-structured 2018 Pommard.

And for the first time in Australia, Fanny has produced a pet nat made from 100% direct-press Pinot Noir. This has the mouth feel of a red while being white due to the quick press it underwent. The wine is named after her daughter who can see in the accompanying cute photo that we have stolen from Fanny's Instagram page!

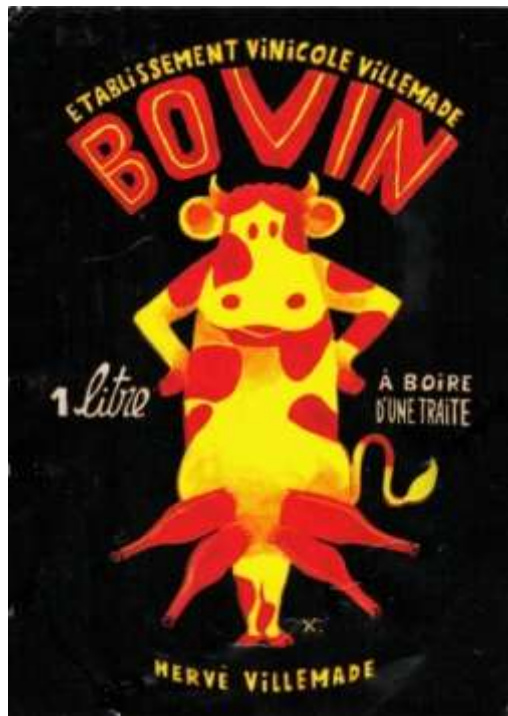


- Fanny Sabre Bourgogne Aligoté 2019 (2 bottles)
- Fanny Sabre Sainte-Marie-La-Blanche Cuvée Anatole Rouge 2020
- Fanny Sabre Bourgogne Rouge 2018
- Fanny Sabre Pommard 2018
- Fanny Sabre Cuvée Camille 2020

**The RRP for this selection of 6 wines is \$356 but the pack price is only \$302.60 including freight to most Australian cities.**

**Pack 2: Hervé Villemade New Arrivals (15% Discount)**

**Note: Three packs only**



As with Fanny Sabre above, we have been importing the wines of Hervé Villemade for a long time and we always look forward to them arriving in Australia. This year we have a particular treat with the inclusion of the amazing, powerful 2018 vintage of Les Acacias, made from the Romorantin grape. We have also included the red and white Domaine wines which have been so popular and the red and white 1 litre Bovin wines which also sell quickly. The pack is rounded out with the wonderful Les Ardilles which is 85% Pinot Noir and 15% Gamay – a delicious drink! A couple of these cuvées are otherwise sold out now.

- Hervé Villemade Cheverny Blanc Domaine 2019
- Hervé Villemade Cour-Cheverny Les Acacias 2018
- Hervé Villemade Cheverny Rouge Domaine 2020
- Hervé Villemade Cheverny Rouge Les Ardilles 2019
- Hervé Villemade Bovin Blanc 2020 1 litre
- Hervé Villemade Bovin Rouge 2020 1 litre

**The RRP for this selection of 6 wines is \$301 but the pack price is only \$255.85 including freight to most Australian cities.**

### Pack 3: Mixed New Arrivals (15% Discount!)

**Note: Three packs only**



This pack is a combination of three of our producers including the two we have already mentioned above. We have the Aligoté from Fanny Sabre and the Bovin Rouge (100% Gamay) from Hervé Villemade and then three wines from Anjou from Julie and Toby Bainbridge including two bottles of the Girl on Fire sparkling made from Cabernet Franc that we described in last month's newsletter, the long-running Rouge aux Levres made from the local grape Grolleau Noir and the Les Jongleurs which is a delicious, fresh and light white made from Chenin Blanc.

This pack represents excellent value for money!

- Fanny Sabre Bourgogne Aligoté 2019
- Julie and Toby Bainbridge Rouge Aux Levres 2020
- Julie and Toby Bainbridge Les Jongleurs 2020
- Julie and Toby Bainbridge Girl on Fire 2020 (2 bottles)
- Hervé Villemade Bovin Rouge 2020 1 litre

**The RRP for this selection of 6 wines is \$257 but the pack price is only \$218.45 including freight to most Australian cities.**

## Pack 4: Last bottle pack (Approx 21% Discount)

Note: One pack only



This month, our regular Last Bottle Pack contains some real gems and quite a mix!

First up is the fabulous Skin Bull from Julien Altaber which is a sparkling Aligoté where the grapes have been macerated to provide additional flavour and texture.

There is a Grenache Noir from Michaël Georget in the Roussillon which is a wonderful expression of this grape and perfect drinking before the weather warms up.

The Sy Rosé from Patrice Lescarret in Gaillac is a delicious wine where we have to watch that we have used the correct accents on the letter e. The reason is that the wine is made in the rosé style (it is a pink colour), however it has been made from the very rare Mauzac Rose grape variety which has pink colouring in the skin of the grape. Patrice macerated these grapes for three weeks to extract the colour.

The Derain Landré is a Chardonnay that comes from a tiny plot (<.3 hectares) near Saint Aubin.

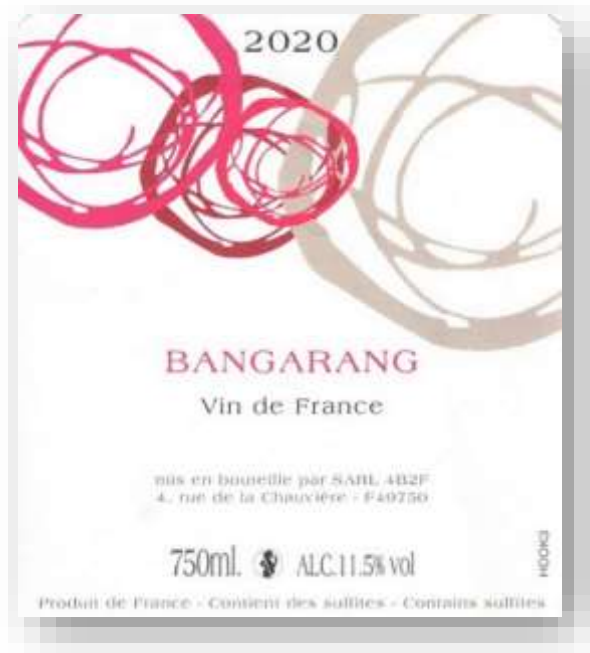
Massale is a light red made from co-fermented Grenache Noir, Grenache Gris and Grenache Blanc and finally, Haut des Clous is a serious dry white wine with some age made by Thierry Michon from Domaine Saint Nicolas from 100% Chenin Blanc.

Note that the discount on this pack is slightly higher than usual as we have included a 25% discount for the Derain Landré because the wax is slightly chipped.

- Sextant - Julien Altaber Skin Bull 2017
- Le Temps Retrouvé Grenache 2014
- Causse Marines Sy Rose 2017
- Derain Bourgogne Landré 2018
- Opi d'Aqui Massale 2018
- Domaine Saint Nicolas Haut des Clous 2014

The RRP for this selection of 6 wines is \$343 but the pack price is only **\$270.50** including freight to the most Australian cities.

**Pack 5: Pink Verging to Light Red Pack (15% Discount)**



Each of the wines in this pack are pinkish to some extent, they are all made from red grapes and they are all sourced from the Loire Valley. The Bangarang has been an exceedingly popular wine since the Mosse family decided to produce this lighter style of red (and the fact that it is mainly comprised of juice from Pineau d’Aunis grapes). It sells out very quickly.

The rosé from Domaine de la Garrelière made from Cabernet Franc and Gamay is a light, yet delicious spring wine and the Girl on Fire is a lightly sparkling wine also made from Cabernet Franc. For each bottle sold Julie is donating 1 Euro to the Solidarite Femmes organisation which assists women who are the victims of violence.

- Mosse Bangarang 2020 (2 bottles)
- Domaine de la Garrelière Touraine Le Rosé de la Cabane 2020 (2 bottles)
- Julie and Toby Bainbridge Girl on Fire 2020 (2 bottles)

**The RRP for this selection of 6 wines is \$224 but the pack price is only \$190.40 including freight to most Australian cities.**

## Pack 6: Treat Yourself Premium Pack (15% Discount)

**Note: Two packs only**



This pack comprises one excellent Champagne that is a rare example of a wine from this region made from 100% Pinot Meunier. It is a Blanc de Noir having been directly pressed so that no colour leached into the juice.

There is also a pair of red Burgundies namely the delicious Les Riaux from Domaine Derain and the equally amazing Pommard from Fanny Sabre.

In the previous newsletter we wrote about the Romorantin grape variety and the only place where it is found, namely the Cour-Cheverny appellation on the central Loire Valley. We have allocated a couple of bottles of our allocation of this rare and aged wine from the 2010 vintage for this pack! It has only just been released by Hervé and was sent in our most recent shipment.

We have also been able to offer the Belluard Les Alpes which was officially sold out, because one order was cancelled recently thus freeing up the bottles for this pack.

And finally we have the lovely Brut Nature sparkling wine from the Milan family in Provence.

- Piollet Champagne Mepetit 2016
- Domaine Derain Bourgogne Les Riaux 2019
- Belluard Vin de Savoie AOP Blanc Les Alpes 2019
- Hervé Villemade Cour-Cheverny Les Acacias 2010
- Fanny Sabre Pommard 2018
- Henri Milan Brut Nature Blanc 2019

**The RRP for this selection of 6 wines is \$537 but the pack price is only \$456.45 including freight to most Australian cities.**



## Pack 7: Rummage pack (Mainly 15% discount)

**Note: One pack only**



**Note: Pack 7 is only available to customers who have not bought Pack 8 this month.**

This pack is one we have put together after a “rummage” through our warehouse to find wines that we have put aside (sometimes ages ago) for some reason. These are all interesting wines and there is only one pack! The Fêtembulles is a sparkling pet nat from Jean-Pierre Robinot which is a good wine for a celebratory drink. The Juliéenas is a beautiful Gamay from one of the best wine producing areas of the Beaujolais made by the La Cadette family in the Yonne. The discount on this is slightly higher because the wine was from a box returned to use because a venue was closed during a lockdown last year.

The Luna & Gaïa is a skin contact wine from the Milan family in Provence made from Vermentino (Rolle) with the remainder comprising Roussanne and Grenache Blanc. This is our last bottle from this vintage.

Then there are two older red wines, one from the eastern Loire (Reflets) made from 100% Pinot Noir and then the Moulins de Mon Coeur from Mylène Bru made from Carignan and Cinsault (both locally favoured grapes) in the Languedoc.

The final wine is one of our favourite white wines from the Languedoc, namely the Peur du Rouge from Axel Prüfer. This vintage is made from Chardonnay and Clairette.

- Jean-Pierre Robinot Fêtembulles 2018
- La Soeur Cadette Juliéenas 2017
- Henri Milan Luna & Gaïa 2017
- Domaine Saint Nicolas Reflets Rouge 2017
- Mylène Bru Moulins de Mon Coeur 2014
- Le Temps des Cerises La Peur du Rouge 2018

**The RRP for this selection of 6 wines is \$294 but the pack price is only \$247.65 including freight to most Australian cities.**



## Pack 8: Rummage pack (Mainly 15% Discount)

### Note: One pack only

**Note: Pack 8 is only available to customers who have not bought Pack 7 this month.**

Some of the wines in this pack are the same as those in Pack 7, where they are described in detail, except for a very old bottle of the Haut des Clous from Thierry Michon (vintage 2007 – this will be something of a lucky dip in terms of whether it may have aged for too long) and 2017 Lady Chasselas (made from the Chasselas grape variety) from Mylène Bru .

The bottle of Mylène Bru's Moulins de Mon Coeur does not have the vintage printed on it due to a printing error. We are almost certain it is 2014 but can't guarantee it, so we have increased the discount on it.

- Jean-Pierre Robinot Fêtebulles 2018
- La Soeur Cadette Juliéas 2017
- Domaine St Nicolas Le Haut des Clous 2007
- Mylène Bru Lady Chasselas 2017
- Mylène Bru Moulins de Mon Coeur 2014 (probably)
- Le Temps des Cerises La Peur du Rouge 2018

**The RRP for this selection of 6 wines is \$282 but the pack price is only \$235.20 including freight to most Australian cities.**

## Our new Retail Price List

We have upgraded our retail price list so that you can search through it more easily and also download it to Excel if you want to examine the wines more closely.

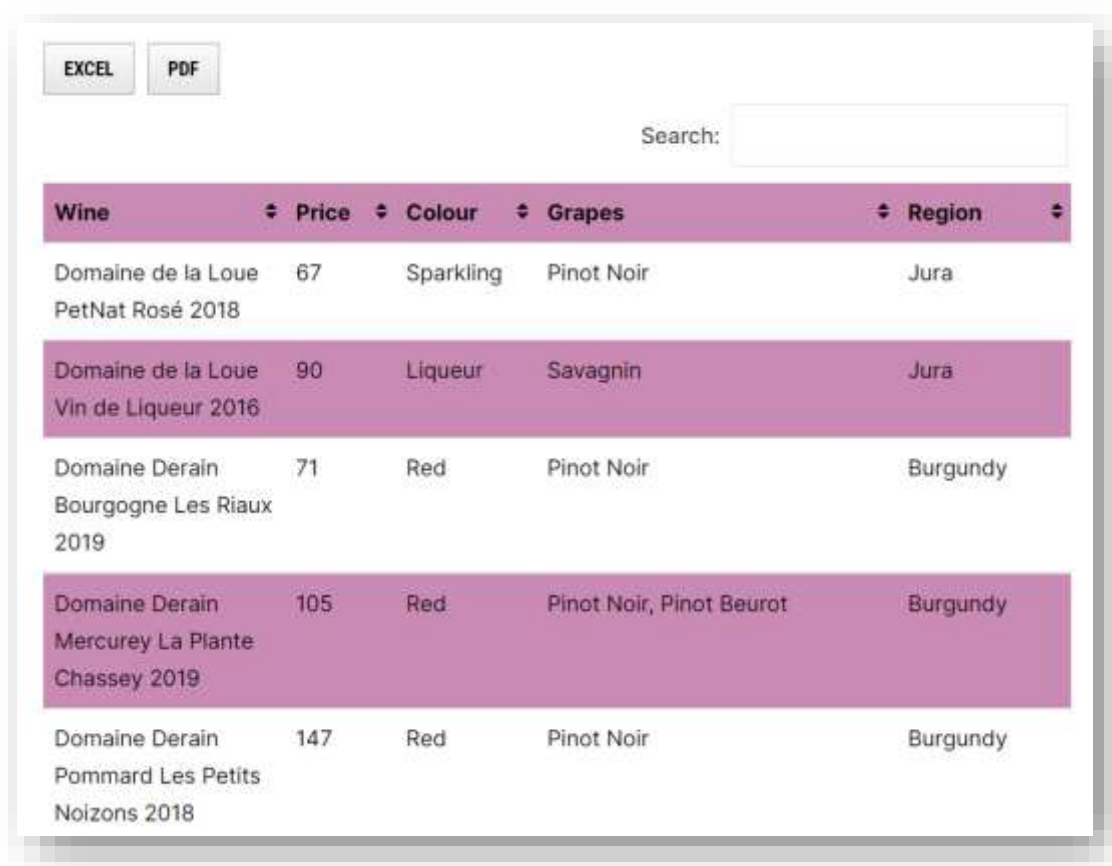
This short article will show you some tricks you can use both on our Living Wines Website and some extra tricks you can apply if you download the list to Excel.

When you visit the Web site you will see the following menu displayed:



You need to click on the Buy Natural Wines (+Full List) option to display the list of wines. (You might need to scroll down a bit to see the list.)

You will see a screen something like the one below although the wines might be different if some have sold (we remove them from the list) or new ones have been added.



The screenshot shows a web interface for a wine list. At the top left, there are two buttons labeled 'EXCEL' and 'PDF'. To the right is a search field with the label 'Search:'. Below these is a table with the following columns: Wine, Price, Colour, Grapes, and Region. Each header has a small downward-pointing triangle. The table contains five rows of wine data.

Wine	Price	Colour	Grapes	Region
Domaine de la Loue PetNat Rosé 2018	67	Sparkling	Pinot Noir	Jura
Domaine de la Loue Vin de Liqueur 2016	90	Liqueur	Savagnin	Jura
Domaine Derain Bourgogne Les Riaux 2019	71	Red	Pinot Noir	Burgundy
Domaine Derain Mercurey La Plante Chassey 2019	105	Red	Pinot Noir, Pinot Beurot	Burgundy
Domaine Derain Pommard Les Petits Noizons 2018	147	Red	Pinot Noir	Burgundy

You will see two “buttons” at the top which is where you can download the list to either Excel or a PDF file. You will also see a Search field on the right where you can search for anything in the list.

You will see two small triangles beside each header which we will explain in a moment.

First, we will explain what you can do with the Search field. Let’s say you want to see if we have any of Roland Piollot’s delicious champagnes available. All you have to do is type “piollot” in the Search field and the list will be immediately filtered to show only those entries containing the word “piollot”.

EXCEL PDF

Search: piollot

Wine	Price	Colour	Grapes	Region
Piollot Champagne Champs Rayés 2014	105	Sparkling	Chardonnay	Champagne
Piollot Champagne Chevy 2014	108	Sparkling	Chardonnay, Pinot Noir, Pinot Meunier	Champagne
Piollot Champagne Come des Tallants 2017	95	Sparkling	Pinot Noir	Champagne
Piollot Champagne Les Protelles 2018	99	Sparkling	Pinot Noir	Champagne
Piollot Champagne Mepetit 2016	114	Sparkling	Pinot Meunier	Champagne

Showing 1 to 5 of 5 entries (filtered from 71 total entries)

As you type in the Search field, the list is filtered to only display those entries that match what you are typing. Notice at the bottom of the list you are informed that there are 5 entries that match what you typed out of 71 entries in total.

Now delete the “piollot” from the Search field and type “chard”. A longer list will be displayed with all the wines that have some Chardonnay in them showing.

In the Search field type a space (after chard) and then type the word “menu”. You will see a list similar to the following (if we haven’t sold out of either wine).

EXCEL PDF

Search: chard menu

Wine	Price	Colour	Grapes	Region
Hervé Villemade Bulle Blanche 2015	54	Sparkling	Menu Pineau, Chenin Blanc and Chardonnay	Loire
Les Capriades Pet Sec 2017 (2 bottles maximum)	58	Sparkling	Chardonnay, Menu Pineau, Chenin Blanc	Loire

Showing 1 to 2 of 2 entries (filtered from 71 total entries)

The list is now restricted to only those wines that contain both Chardonnay and Menu Pineau.

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Now delete just the word “menu” in the Search field and type “jura”. This will often be in vain because the wines from the Jura region usually sell out so quickly. Notice here that you have one word in the Search field that is about grapes and one that is about regions. No problem. The result returned below is of a wine (and a delicious one) that is made from Chardonnay and is sourced from the Jura!

The screenshot shows a search interface with two buttons labeled 'EXCEL' and 'PDF' at the top left. A search bar on the right contains the text 'chard jura'. Below the search bar is a table with a header row and one data row. The header row has columns for 'Wine', 'Price', 'Colour', 'Grapes', and 'Region'. The data row shows a wine with a price of 74, white color, Chardonnay grapes, and from the Jura region. Below the table, it says 'Showing 1 to 1 of 1 entries (filtered from 71 total entries)'.

Wine	Price	Colour	Grapes	Region
Eric Thill AOP Côtes du Jura Chardonnay Préfleur 2014	74	White	Chardonnay	Jura

You can also click in the header of any field and the list will be sorted by that field. So, if you click on the Region header you will sort the list by Region as shown in the screen below.

The screenshot shows the same search interface but with the search bar empty. The table now displays three entries, all from the Alsace region. The 'Region' header is highlighted in blue, and there is a small downward arrow to its right, indicating it is the active sort criterion. The entries are sorted alphabetically by region name.

Wine	Price	Colour	Grapes	Region
Jean-Marc Dreyer Vin d'Alsace Auxerrois Origin 2019	53	Orange	Auxerrois	Alsace
Jean-Marc Dreyer Vin d'Alsace Riesling Origin 2019	55	Orange	Riesling	Alsace
Jean-Marc Dreyer Vin d'Alsace Stratos 2019 (2 bottles maximum)	53	Orange	Riesling, Auxerois, Sylvaner	Alsace

You can see that the Region is now sorted and there are no longer two little triangles displayed to the right of Region. This is showing that if you click on Region again the sort order will change to the reverse alphabetical order. Similarly, if you click on the Price header then the list will be ordered by price and so on.

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Finally, remove any text you have in the Search field and then click on the Excel button on the left side of the display.

An Excel file will be created in your Download folder. You can now use all your Excel skills to manipulate the data even more.

### Note

This list is a Plugin for Wordpress called TablePress which was created in Germany by Tobias Bätthge. We've been very impressed with its flexibility.

## Answers to questions

Here we answer questions we have been asked recently.

### What is a foudre and what are the advantages in using them for winemaking?

A foudre is a large, wooden container used for fermenting and/or maturing wine. Usually, in France, the term is reserved for large wooden vessels that have a capacity that is much higher than for typical wooden barrels. They can have a capacity of 1000 litres or more – even up to 12,000 litres in some cases.

The advantage of using a foudre (provided you have enough wine) is that there is a much lower ratio of wine that is in direct contact with the wood as opposed to a standard 225 litre or 228 litre barrel. This means that even when the foudre is new it doesn't impart that unpleasant wood flavour to the wine that we regard as an additive.

Another advantage is that the wood is usually much thicker than that used for the staves of a barrel – sometimes more than 5 centimetres thick. This means that it is harder for oxygen from the air to penetrate into the wine thus causing oxidation.

One more advantage is that foudres last a long time. They can be used year after year for many years – one of our producers still uses foudres that are over 100 years old!

### Why are there so many catastrophic events in the vineyards of France and is this normal?

All of our winemakers are keen observers of the weather and the climate (like most farmers who are “close to the ground”). In France, there are also excellent records of when events have occurred each year (such as the start of the harvest) which go back to the 1600s. So there is good data to base analysis on.

We are going to answer the question by looking at three “events” in the vineyards of France and highlight changes that are occurring and then discuss whether any components of climate change are contributing to the problems.

The three areas to be considered are:

- The onset of “budding” by the vines;
- The commencement of the harvest;
- The longevity of vines now and in the past.

Possibly, the onset of “budding” is the most serious and immediate of the problems facing French winemakers. The increase in carbon dioxide in the atmosphere, along with the increase in methane (which has an even greater effect than carbon dioxide) means that global temperatures have risen.



This means that the vines wake up from their winter slumber earlier than before, sometimes up to four or five weeks earlier. However, frosts are still around at this time. As the buds develop on the vines they are particularly vulnerable to nights where there are heavy frosts.

We therefore see our vigneronns out in the vineyards all night with large candles or straw fires or other makeshift solutions, hoping to ameliorate the problems caused by the frosts. They are rarely 100% successful which means the buds are destroyed along with their crop for the season. It is devastating.

The second area of concern, closely related to the first, is the earlier onset of the harvest.

A region we are very familiar with is the Jura. We have often stayed in the tiny village of Pupillin which has a large sign at the entrance to the village listing the vigneronns who live there and information about the grapes and the harvest.

As we have written about before the sign used to list the start of the harvest as the beginning “debut” of October, but now, once again due to climate change, the harvest often begins early in September or even in late August – a huge change in a very short time!



You can just see the Vendanges Debut Octobre at the bottom behind the flowers

As we have written about before the sign used to list the start of the harvest as the beginning of October, but now, once again due to climate change, the harvest often begins early in September or even at the end of August – a huge change in a very short time!

This is even more accentuated for our vigneronns further south in the Languedoc or Roussillon where they are now starting the harvest in early August. This has a very different impact. In France everyone takes holidays for the month of August and therefore it is very difficult to convince people to help with the harvest during that month. Traditions are being turned upside down.

The third disaster we mentioned is one that everyone is only just becoming aware of, but could end up being the most expensive disaster of all!



Many of our vigneronns have vines that are very old. When we walk with Wim Wagemans through his vineyards in the Languedoc, we marvel at the almost 100 year old vines (shown in the photo to the left) that he lovingly clings to because they still produce grapes of excellent quality but very low quantities. His vines are only one example among many of this ability of vines to age.

However, there is a new problem emerging. With the increase in carbon dioxide in the atmosphere, plants tend to grow faster. Some climate change deniers point to this as an advantage saying that this will allow us to produce more food for an increasing population.

However, vigneronns are starting to notice that vines that should be in their prime are starting to weaken and the reason is that the higher rate of growth means that the complex cellular structure required for longevity hasn't developed properly. They are going to have to go through the expensive process of replacing these relatively young vines!

In our next newsletter we will also answer a question relating to a similar problem with oak trees used for making barrels.

## An Update on What's Coming

### New Arrivals

We recently released some Fanny Sabre, Hervé Villemade and Julie and Toby Bainbridge wines. The Fanny Sabre wines sold out very quickly but fortunately many people who were keen to buy some contacted us in advance and we were able to ensure they didn't miss out. (There is also one newsletter pack we kept aside to offer in this issue and some Sabre wines in other packs as well.)

If there is a producer you are particularly interested in and we indicate in the newsletter we're expecting wine from them, that's the time to get in touch. Our systems aren't foolproof, but we do our best to make sure anyone who really wants some wine from a particular producer gets some. It's often too late to ask once it has been released as the wine sometimes vanishes in a day or less.

We do though still have small amounts from Hervé Villemade (not all cuvées are still available) and Julie and Toby Bainbridge.

### Hervé Villemade

All of the cuvées in this shipment from Hervé Villemade are familiar to us although it's been many years since we have had La Bodice, his white Cheverny his Sauvignon Blanc (20%) and Chardonnay (80%) blend from a parcel of older vines (over 40 years now). Aged in amphora (40%) and barrels, it's much more intense, with much more length and substance than the easy drinking Cheverny Blanc Domaine.



But the most intense wine in this shipment is the 2018 Cour-Cheverny Les Acacias. From a parcel right in front of his winery we always feel that this is Hervé's hallowed ground. The appellation is exclusively for Romorantin and this is the wine Hervé always seems to choose if we lunch together. This vintage is 15% alcohol so we approached it with trepidation, but it holds the alcohol with ease. Drunk over three days not one ounce of its almost excessive energy dissipated. The amount of alcohol and oxidative treatment makes you

think along the lines of fino, a sense exacerbated by an element of salinity. We also have a few late release bottles of Les Acacias 2010. We've only allocated ourselves one bottle and plan on drinking it as part of meal. It, like its younger sibling, needs food to elevate it to its highest plane.

Other cuvées include the 2020 Cheverny Rouge Domaine 2020, which is a thirst quenching blend of 60% Pinot Noir and 40% Gamay. With a short maceration and aged briefly (it was

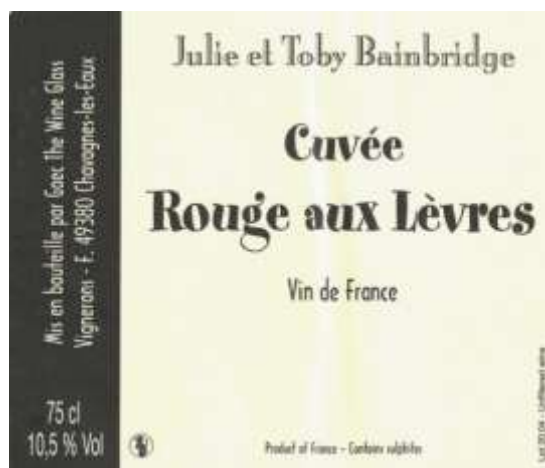
bottled in March) in large wooden tanks it is all about drinkability. We know Hervé was very happy with the 2020 vintage and we look forward to more wines next year.

And we also have two 2020 “park wines” (not, sadly, that many of you can share a glass of wine in a park at the moment) – Bovin Rouge, which is 100% Gamay and Bovin Blanc, which is mainly Sauvignon Blanc, but with the pressing from the other white grapes. Both of these are 1 litre bottles. The instruction on the bottle is “à boire d’une traite”, essentially meaning drink in one go. The Bovin blanc would actually stand up over a couple of days but the Gamay is definitely best enjoyed soon after opening. They are delicious.

There’s a summary of what is still available and the maximum number of bottles possible per order.

Wine	RRP	Maximum Order
Hervé Villemade Sauvignon 2019	\$38	3 bottles
Hervé Villemade Bovin Blanc 2020 1 litre	\$42	6 bottles
Hervé Villemade Cheverny Blanc La Bodice 2019	\$58	3 bottles
Hervé Villemade Cour-Cheverny Les Acacias 2018	\$76	2 bottles
Hervé Villemade Cour-Cheverny Les Acacias 2010	\$104	1 bottle
Hervé Villemade Cheverny Rouge Domaine 2020	\$42	2 bottles
Hervé Villemade Bovin Rouge 2020 1 litre	\$42	3 bottles

### Julie and Toby Bainbridge



We also have three wines from Julie and Toby Bainbridge. Two cuvées are familiar names from when we used to import their wines as Bainbridge and Cathcart, although the grapes are from different vineyards. Rouge Aux Lèvres is 100% Groslot Noir, made using semi-carbonic maceration and is only 10.5%. It’s also a good chilled picnic wine – not too complicated or powerful. Les Jongleurs is 100% Chenin Blanc. It was fermented and aged in fibreglass and the result is also a light, very fresh and easy drinking wine. It has been lightly filtered.

The final wine, called Girl on Fire, is Julie’s first single-handed project. It is a slightly pétillant rosé made with 100% Cabernet Franc, but using an unusual process. A part of the base wine was frozen after the grapes were pressed. The rest of the juice was fermented naturally.

Then, after winter, and a week before bottling, the frozen juice was thawed and added back to the juice, which kicked off further fermentation. The wine is apparently officially still, because it has only 3 bars of pressure, but it drinks as a gently sparkling wine. It has aromas of white peach – we so wish it was Bellini season to use this as the mixer. The wine was released to coincide

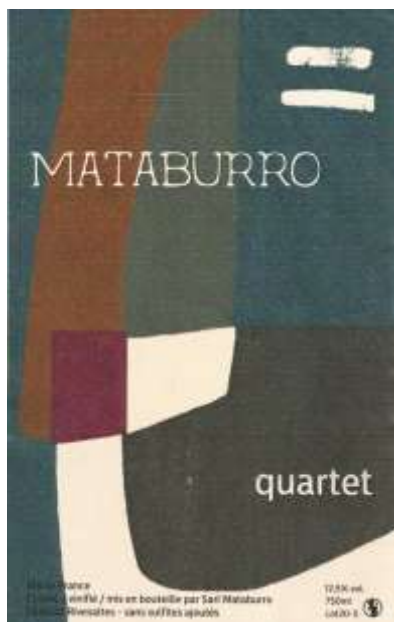


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with International Women's Day and in collaboration with Lisanne Van Son, whose wines are soon to be available in Australia from Vivant Selections, 1€ of each bottle sold was donated to Solidarite Femmes, an association that helps women who are victims of violence.

Wine	RRP	Maximum Order
Julie and Toby Bainbridge Rouge Aux Levres 2020	\$37	6 bottles
Julie and Toby Bainbridge Les Jongleurs 2020	\$40	6 bottles
Julie and Toby Bainbridge Girl on Fire 2020	\$45	6 bottles

## What's coming next ...



Our next release is from the south of France. We are releasing wines from Mataburro and Les Cigales Dans La Fourmilière and vinegars from La Guinelle. We are also allocating and offering some of Jean-Pierre Robinot's wines at the end of this month or early in September. These will not be publicly advertised so this is your last chance to request an offer if you haven't already. (The Mataburro wines may be in the same situation – we're not sure yet.)

The Mataburro wines include the 2020 vintages of cuvées we received last year (Otium, Idoine, and Mura Mura) and two new wines. Quartet is a lightish red which is a blend of Grenache, Merlot and Muscat, and quite fresh for easy drinking. Totem is Grenache, with a slightly longer maceration and aged in amphora, so perhaps the only wine from Roger and Melissa we can truly classify as red.

From Julie and Ivo (Les Cigales Dans La Fourmilière) there is some 2020 Marée Basse (a blend of Grenache, Grenache Blanc, Chardonnay, and Muscat à Petit Grain), 2020 La Polonoise, a new cuvée sourced from both Ivo and Julie's grapes which is macerated Chardonnay and Muscat à Petit Grain, 2020 La Petite Pépée, which is Ivo's "Blanc de Noir", a white wine made by directly pressing Grenache Noir, and Rue de la Peste, a red wine from Julie's vines, made with Carignan and Syrah.

We may not include all the La Guinelle vinegars in this forthcoming release but there will definitely be the classic 50cl Vinaigre de Banyuls, which is the vinegar with which Nathalie Lefort began her business, as well as another red wine vinegar made with older Banyuls (Vieux Banyuls), which is also 50cl and a nutty, complex 50cl vinegar made with Mauzac which was aged under the veil (sous voile) from the Plageoles family. Also 50cl, is Vinaigre de Le Rina de luli, made with Slarina grapes from the Piedmont estate Cascina luli. There is a new release of Bornard Savagnin, a Banyuls Blanc, and a vinegar made with Muscat à Petit Grains. These last three are 25cl bottles.

## What's coming after that ...



After that, so probably not until late September or early October, there will be a tiny release of wines from Yan Durieux and another shipment from Sextant (some early release 2020 wines that we didn't want to miss out on and a top up of some of the wines we received a couple of months ago.)

We have had a lot of interest in Durieux's wines, with many people having expressed their interest since midway through last year, but given the prices we'll unfortunately have to charge that may not all translate into sales. There will be some 2018 Love and Pif (Aligoté) and a few bottles of 2018 Les Grands Ponts Blancs (macerated Aligoté) and 2017 Manon (Chardonnay). All the remaining wines are Pinot Noir from the 2018 vintage (Les Fleurs des BT, LDX, CR, PV, La Gouzotte and Black Pinot - a cuvée name Yann last used many years ago).

**Any of these cuvées will only be available as single bottle orders and we will be limiting the overall number of wines for any one order.**

The new wines from Julien Altaber will be Métisse 2020, Bourgogne Aligoté 2020, MaMaMia 2020, Po à Po 2020, Foufounette 2020, and Skin Bull 2020. The repeats from earlier this year will be Coteaux Bourguignons 2019, Bourgogne Blanc 2019, and Saint-Aubin 1er Cru Blanc 2018. There is also some more 2018 Bourgogne Blanc, which we last received in 2020.

## And finally ...

We have a small number of orders on hold pending an end to lockdowns in Sydney and Melbourne. It's possible, after the lockdowns end, that some of those venues may not want the wines we are holding for them, given something as traumatic and dramatic as what is happening at present may change priorities. It might mean, for example, that a small number of some of the previously sold out Mosse wines, like Magic of Juju and Moussamoussettes, and a few bottles of otherwise sold out wines from Dominique Belluard become available. If you are interested in being offered any of those wines, should that happen, please let us know. If anything does become available it will be in sort of quantities that don't warrant us advertising them again on our website. We would sell them by a combination of "hand selling" to people who have expressed an interest or by including them in newsletter packs.

## Temperature controlled shipping to NSW, country Victoria, Queensland and maybe soon Adelaide over the summer

With Sydney reaching the mid 20s recently (hard to imagine here in Hobart) it's time to start thinking about reimplementing our seasonal Anonymous Wine shipping option, whereby we send a pallet of wine to Anonymous Wines in Melbourne and they send it overnight to various destinations using temperature-controlled shipping.

We will be working on new pricing for this summer season's service but, with the Covid-related delays we are seeing with our free courier-based shipping service, especially into Sydney, we would encourage you to consider using this alternative option, even though it will involve a small freight charge and may mean your order is not shipped immediately because we can only ship when we have a full pallet ready. We hope to have it up and running again before we start shipping our Jean-Pierre Robinot allocations early next month.



## Life in and above the soil – Part 2

*This is the second of a two-part series of articles that looks at how soils are formed and how soils can provide an optimal environment for vines to thrive.*

*It also looks at one of the fundamental requirements that must be observed for a wine to be called natural, namely that no systemic sprays be used in vineyards from which grapes for a natural wine are to be harvested.*

In the first part of this article in the July 2021 newsletter, we wrote about how bacteria eat rocks! It maybe not in the way that we eat something delicious, but more by creating acids which dissolve the rocks to allow elements that are freed up by this process to be accessible for plants.

We also provided some examples of the scientific evidence for this process occurring.

In this article we are going to look at bacteria again as well as other creatures to show how they form a symbiotic relationship with plants growing in the soil. The plants help feed the creatures and the creatures provide the plants with essential elements that they need to grow.

We will attempt to show that this relationship is vital for healthy, strong plants and therefore we will argue that these creatures must be protected and given the chance to thrive in the soil.

We will also argue that the use of systemic sprays such as glyphosates and dicamba and other sprays that have become common in modern agriculture damage these creatures and hence lead to the production of inferior and often dangerous (due to the residual chemicals) plants.

We also weave into this story the requirement that no systemic sprays be used in vineyards where grapes are going to be picked for use in a wine that is to be called natural.

### What do plants need from the soil?

Plants need a number of different elements from the soil as there are only three that they can access directly from the atmosphere. These are Carbon, Oxygen and Hydrogen. However there are many more elements that are required for plants to be healthy and grapevines are no exception.

There are elements such as Magnesium and Phosphorus and the all-important Nitrogen that plants require and can only access from the soil. Healthy soils deliver these elements easily, damaged soils struggle to do this!

The following diagram is the famous Periodic Table developed by Russian scientist Dmitri Mendeleev in 1869 which shows each of the elements that we know about and the Atomic Number of each. We have coloured the elements required by plants in this diagram.

<b>1</b> H Hydrogen																	<b>2</b> He Helium
<b>3</b> Li Lithium	<b>4</b> Be Beryllium											<b>5</b> B Boron	<b>6</b> C Carbon	<b>7</b> N Nitrogen	<b>8</b> O Oxygen	<b>9</b> F Fluorine	<b>10</b> Ne Neon
<b>11</b> Na Sodium	<b>12</b> Mg Magnesium											<b>13</b> Al Aluminium	<b>14</b> Si Silicon	<b>15</b> P Phosphorus	<b>16</b> S Sulphur	<b>17</b> Cl Chlorine	<b>18</b> Ar Argon
<b>19</b> K Potassium	<b>20</b> Ca Calcium	<b>21</b> Sc Scandium	<b>22</b> Ti Titanium	<b>23</b> V Vanadium	<b>24</b> Cr Chromium	<b>25</b> Mn Manganese	<b>26</b> Fe Iron	<b>27</b> Co Cobalt	<b>28</b> Ni Nickel	<b>29</b> Cu Copper	<b>30</b> Zn Zinc	<b>31</b> Ga Gallium	<b>32</b> Ge Germanium	<b>33</b> As Arsenic	<b>34</b> Se Selenium	<b>35</b> Br Bromine	<b>36</b> Kr Krypton
<b>37</b> Rb Rubidium	<b>38</b> Sr Strontium	<b>39</b> Y Yttrium	<b>40</b> Zr Zirconium	<b>41</b> Nb Niobium	<b>42</b> Mo Molybdenum	<b>43</b> Tc Technetium	<b>44</b> Ru Ruthenium	<b>45</b> Rh Rhodium	<b>46</b> Pd Palladium	<b>47</b> Ag Silver	<b>48</b> Cd Cadmium	<b>49</b> In Indium	<b>50</b> Sn Tin	<b>51</b> Sb Antimony	<b>52</b> Te Tellurium	<b>53</b> I Iodine	<b>54</b> Xe Xenon
<b>55</b> Cs Caesium	<b>56</b> Ba Barium	Lanthanoids	<b>72</b> Hf Hafnium	<b>73</b> Ta Tantalum	<b>74</b> W Tungsten	<b>75</b> Re Rhenium	<b>76</b> Os Osmium	<b>77</b> Ir Iridium	<b>78</b> Pt Platinum	<b>79</b> Au Gold	<b>80</b> Hg Mercury	<b>81</b> Tl Thallium	<b>82</b> Pb Lead	<b>83</b> Bi Bismuth	<b>84</b> Po Polonium	<b>85</b> At Astatine	<b>86</b> Rn Radon
<b>87</b> Fr Francium	<b>88</b> Ra Radium	Actinoids	<b>104</b> Rf Rutherfordium	<b>105</b> Db Dubnium	<b>106</b> Sg Seaborgium	<b>107</b> Bh Bohrium	<b>108</b> Hs Hassium	<b>109</b> Mt Meitnerium	<b>110</b> Ds Darmstadtium	<b>111</b> Rg Roentgenium	<b>112</b> Cn Copernicium	<b>113</b> Nh Nihonium	<b>114</b> Fl Flerovium	<b>115</b> Mc Moscovium	<b>116</b> Lv Livermorium	<b>117</b> Ts Tennessine	<b>118</b> Og Oganesson
			<b>57</b> La Lanthanum	<b>58</b> Ce Cerium	<b>59</b> Pr Praseodymium	<b>60</b> Nd Neodymium	<b>61</b> Pm Promethium	<b>62</b> Sm Samarium	<b>63</b> Eu Europium	<b>64</b> Gd Gadolinium	<b>65</b> Tb Terbium	<b>66</b> Dy Dysprosium	<b>67</b> Ho Holmium	<b>68</b> Er Erbium	<b>69</b> Tm Thulium	<b>70</b> Yb Ytterbium	<b>71</b> Lu Lutetium
			<b>89</b> Ac Actinium	<b>90</b> Th Thorium	<b>91</b> Pa Protactinium	<b>92</b> U Uranium	<b>93</b> Np Neptunium	<b>94</b> Pu Plutonium	<b>95</b> Am Americium	<b>96</b> Cm Curium	<b>97</b> Bk Berkelium	<b>98</b> Cf Californium	<b>99</b> Es Einsteinium	<b>100</b> Fm Fermium	<b>101</b> Md Mendelevium	<b>102</b> No Nobelium	<b>103</b> Lr Lawrencium

Absorbed from the air



Absorbed from the soil



You will notice that the heaviest of the elements absorbed by plants is Molybdenum which has an Atomic Number of 42. This means, in simple terms, that the nucleus of Molybdenum contains 42 protons. You can also see that many of the elements absorbed by plants are quite light.

Vignerons must ensure that conditions in the soil are such that a plant can take up the elements that it needs. For example, all plants need Nitrogen especially in the period when the grapes are developing, however too much of this element absorbed into a vine will encourage too much canopy growth and not enough root growth. A balance is required.

Potassium is also very important for grapes in controlling their acidity and for grape growth. Magnesium is also important being an essential component of the chlorophyll molecule and vital for photosynthesis.

The question that must be answered here is how do plants go about absorbing these elements? We will demonstrate that plants such as grapevines often need lots of help from creatures in the soil, so we will now turn our attention to those creatures and why they need to be preserved and not attacked by the ever-present sprays that are used in most vineyards.

## Life in the vineyard and the link to Terroir

In previous articles we have talked about the components of terroir that are normally talked about such as the geology (taking into account rocks and soil derived from those rocks), weather and exposure, but these factors are not the only ones impacting on the grapes that are grown.

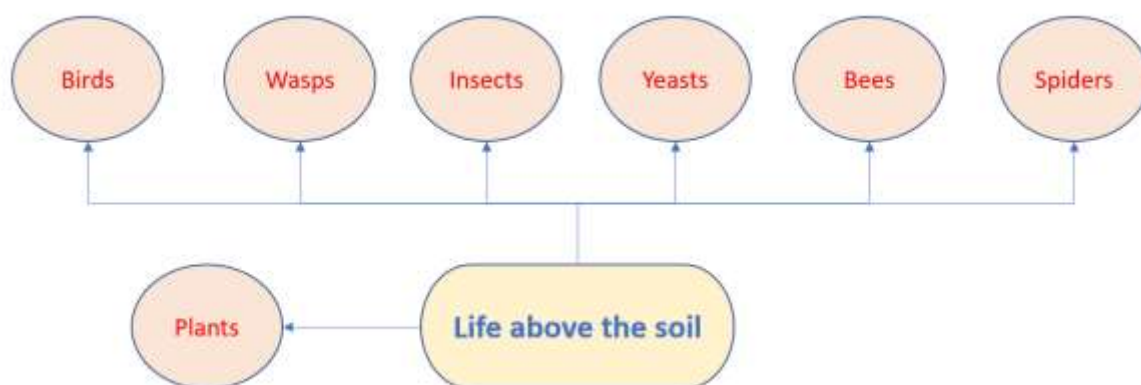
We also believe that the “biota” which is in, and below, the vineyard is also vital to the production of grapes and how those grapes will taste.

The Oxford Dictionary defines the term biota as:

*The animal and plant life of a particular region.*

We interpret this to mean any living creatures right down to the microscopic such as bacteria and yeasts (which are found both above the soil and in the soil). The next two sections will explore the life forms that exist both above and within the soil, thus contributing to the terroir.

## Life above the soil



Examples of life above the soil in vineyards

Healthy soil teems with life, some of it large enough for us to see and some that requires a microscope. However, we can't talk about the life in the soil without looking briefly at life above the soil as it is vital for a range of plants to exist in the vineyard to attract beneficial insects and other life forms that help plants grow.

### Bees

Let's take the example of bees. We all know that bees are super-pollinators that work tirelessly to pollinate plants of all types. Without them our food chain will collapse.

Unfortunately, the profusion of systemic sprays being used in vineyards (and many other crops ranging from almonds to corn) throughout the world has now been shown to have a damaging effect on bees.

One of the main culprits is the widely used weedkiller Roundup which is based on the poison glyphosate. A recent paper in the Proceedings of the National Academy of Sciences showed that Roundup, while not attacking bees directly, does attack microbes in the intestinal tract of the bee thus leaving them vulnerable to pathogens and to premature death.

This is very similar to the effect on humans. Glyphosate does not directly affect humans, but it does significant damage to our gut bacteria by attacking the shikimate pathway of our bacteria, hence reducing our resistance to many diseases.

There has also been a number of alarming reports of the effect on honey bees of the sprays called neonicotinoids. These have shown to be directly harmful to bees at much lower levels than the recommended doses according to research published recently in the Proceedings of the Royal Society<sup>1</sup>.

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<sup>1</sup> Jacob M. Cecala and Erin E. Wilson Rankin (2021) Pollinators and plant nurseries: how irrigation and pesticide treatment of native ornamental plants impact solitary bees. *Proc. R. Soc. B* 288: 20211287.

## Butterflies

You will have noticed that we have not included butterflies in the “Life above the Soil” diagram above. We have done this deliberately because we can find no evidence of butterflies directly having a beneficial effect on vines.

However, butterflies are very useful pollinators and can help pollinate a profusion of plants that, in turn, attract beneficial insects to the vineyard. One paper, by butterfly expert Professor David James that we read recently also points to the fact that systemic sprays severely reduce butterfly populations. In the paper<sup>2</sup> he says that the presence of lots of butterflies in a vineyard is a signal that the vineyard is being managed well.

The same peripheral benefits apply to grasshoppers.

## Birds

We should also talk about encouraging bird life. Birds are tireless workers in the vineyard finding and eating insects that can cause damage to the vines. Of course, once the grapes are ripe then the birds will want to have their fill.

What is extraordinary is that they can detect vines that have been sprayed from those that have been managed organically and/or biodynamically. We were once walking through a vineyard in central Beaujolais that was farmed without the use of any systemic sprays. It was only a short distance from a vineyard of the brother of the vigneron who used sprays in profusion.

Our vigneron explained to us that as the grapes started ripening, the birds would try to eat the grapes on his vines and would ignore the grapes on his brother’s vines. They knew!

## Spiders

We also had a similar experience in Tasmania in 2010 when the state was suffering from an infestation of European wasps which ravaged many vineyards throughout the state. That year we helped a friend who manages his vines biodynamically pick the grapes at harvest time.

His grapes were healthy and the wasps had not done any damage. As we picked the grapes we constantly came across spider webs in the vines that had wasps captured in the webs. The fact that our friend hadn’t used any sprays meant that the spiders were there in profusion and were able to capture the wasps when they tried to land on the grapes!

We should add that not all wasps are destructive like the European wasp. Some wasps are actually very helpful in eating “mealybugs” which can cause damage to vines.

We have come across exactly the same profusion of spiders in healthy vineyards in France. When we visit Axel Prüfer in the Languedoc we drive up narrow roads into the forest and then walk along tracks to his remote vineyards (he doesn’t want to be anywhere near farms where sprays might be used). The lasting impression we get as we walk through the vineyards in the

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<sup>2</sup> James, D et al (2015) *Beauty with benefits: butterfly conservation in Washington State, USA, wine grape vineyards*. *Journal of Insect Conservation* volume 19, pages 341–348.

presence everywhere of massive spider webs covering the ground and the vines as shown in the photo below.



Spider webs in Axel's vineyard: notice also the plants and flowers that attract beneficial insects

However, there is another reason to eliminate the use of systemic sprays. A recent study in the United States into regenerative farming<sup>3</sup> showed clearly that there are benefits in not using these sprays. The study was carried out on corn crops because this is the most widely planted food crop in that country.

*“Pests were 10-fold more abundant in insecticide-treated corn fields than on insecticide-free regenerative farms, indicating that farmers who proactively design pest-resilient food systems outperform farmers that react to pests chemically.”*

Obviously, this significant reduction in the presence of creatures that are pests is a bonus for anyone farming due to the reduced costs that come from not having to buy expensive poisons. This research did not address the harm done directly to farmers who do spray but there are many examples in the literature to confirm this as well, that we will address in a future article.

## Yeasts

And finally, there are the most important creatures that float around in the vineyard and also inhabit the soil. These are the tiny yeasts which are fundamental to the production of natural wines which truly reflect the terroir.

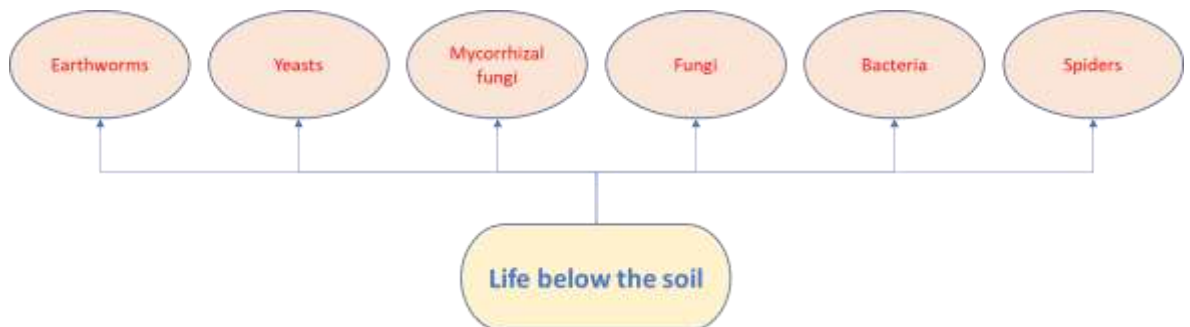
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<sup>3</sup> LaCanne CE, Lundgren JG. 2018. Regenerative agriculture: merging farming and natural resource conservation profitably. *PeerJ* 6:e4428

Many research papers have been published over the past ten years which clearly show that yeast populations vary dramatically from one area to another, including from one side of a valley to the other or from one end of a valley to the other. Different yeasts are capable of producing different flavours and textures in a wine and therefore are a vital part of terroir which is missing if commercial yeasts are added to grape juice.

## Life in the soil

Life in the soil has a dramatic effect on the health of the vines and the ability of the vines to take up water and essential elements from the soil.



The most obvious example of life are the earthworms that inhabit healthy soil. These are vital in providing pathways for root systems to penetrate the soil in the search for water and nutrients.

But there are also yeasts, various types of fungi, bacteria and spiders lurking underground working hard to help the vines grow.

## Earthworms

Let's start with earthworms that condition the soil and provide pathways for roots and nutrients to enrich the soil. We want to emphasise the importance of vermiculture (the cultivation of earthworms or ensuring that earthworms exist in conditions where they thrive) in all forms of agriculture in improving yields and biomass as explained in the Groenigen quote below.

We talked extensively about the role of bacteria in helping to break down rocks into soil in the first of these articles, however the role of earthworms is now receiving the attention it deserves in conditioning the soil for the plants.

A recent meta-analysis of the peer-reviewed literature showed that earthworms also contribute significantly to the productivity of plants.

The paper by van Groenigen et al<sup>4</sup> found that:

*“on average earthworm presence in agroecosystems leads to a 25% increase in crop yield and a 23% increase in above ground biomass. The magnitude of these effects depends on presence of crop residue, earthworm density and type and rate of fertilization. The positive effects of earthworms become*

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<sup>4</sup> van Groenigen, J. W. et al. Earthworms increase plant production: a meta-analysis. *Sci. Rep.* 4, 6365, 10.1038/srep06365 (2014).



*larger when more residue is returned to the soil, but disappear when soil nitrogen availability is high. This suggests that earthworms stimulate plant growth predominantly through releasing nitrogen locked away in residue and soil organic matter”.*

But farmers need to be careful. A paper by Gaupp-Berghausen<sup>5</sup> (2015) in a journal in the same stable as the prestigious Nature magazine showed that glyphosate-based herbicides reduced the populations of earthworms in soils sprayed with glyphosates by reducing their capacity to breed.

Even more worrying, a paper by Zaller et al<sup>6</sup> (2014) showed that glyphosate usage reduced the interactions between earthworms and symbiotic mycorrhizal fungi in the soil. And, as we mentioned earlier in this article, this reduces the ability of the vine to absorb 13 out of the 16 essential elements that the vine needs for growth and survival.

We even read in the literature about the efforts of earthworms to avoid soil that has been sprayed with glyphosate.

There is also evidence that spraying with glyphosates reduces the reproductive cycle of earthworms (Gaupp-Berghausen referenced above). Part of their abstract included the following statement:

*Reproduction of the soil dwellers was reduced by 56% within three months after herbicide application. Herbicide application led to increased soil concentrations of nitrate by 1592% and phosphate by 127%, pointing to potential risks for nutrient leaching into streams, lakes, or groundwater aquifers.*

There is also a report by Keddy<sup>7</sup> and others about how earthworms are a harbinger of problems starting to occur in the soil:

*earthworms increasingly are being considered as sentinels, or biomarkers, of soil health and integrity.*

## Bacteria

In the previous article in this series we established the important effects of bacteria in the soil especially in breaking down the soil to make important elements such as Nitrogen, Manganese and Magnesium available to the plants that grow in that soil. We are therefore wary of anything that is used in agriculture that diminishes the effectiveness of bacteria in the soil.

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<sup>5</sup> Gaupp-Berghausen, M. et al. (2015) Glyphosate-based herbicides reduce the activity and reproduction of earthworms and lead to increased soil nutrient concentrations. *Sci. Rep.* 5, 12886; doi: 10.1038/srep12886.

<sup>6</sup> Zaller, J. G., Heigl, F., Ruess, L. & Grabmaier, A. (2014) Glyphosate herbicide affects belowground interactions between earthworms and symbiotic mycorrhizal fungi in a model ecosystem. *Sci. Rep.* 4, 5634, 10.1038/srep05634.

<sup>7</sup> Keddy, C.J., J.C. Greene, and M.A. Bonnell. (1995). Review of whole-organism bioassays: soil, freshwater sediment, and freshwater assessment in Canada. *Ecotoxicology and Environmental Safety*

In an important paper published by a group of German scientists (Shehata et al) they demonstrated that glyphosates have very little effect on dangerous bacteria for humans such as Salmonella but do have a deleterious effect on bacteria that are beneficial to humans<sup>8</sup>.

*The use of glyphosate modifies the environment which stresses the living microorganisms. The aim of the present study was to determine the real impact of glyphosate on potential pathogens and beneficial members of poultry microbiota in vitro. The presented results evidence that the highly pathogenic bacteria as Salmonella Enteritidis, Salmonella Gallinarum, Salmonella Typhimurium, Clostridium perfringens and Clostridium botulinum are highly resistant to glyphosate. However, most of beneficial bacteria as Enterococcus faecalis, Enterococcus faecium, Bacillus badius, Bifidobacterium adolescentis and Lactobacillus spp. were found to be moderate to highly susceptible.*

This means that bad bacteria such as Salmonella survives in a sprayed environment whereas the bacteria that are beneficial for humans particularly in relation to gut health are damaged by systemic sprays and by glyphosate particularly.

There is some good news, however. Bayer (who bought Monsanto) has announced that they will be withdrawing Glyphosate products from the market from next year. We just hope that they are not replaced with products that are even more dangerous to human health and the health of creatures that are an integral part of the human food chain.

### Yeast

We have covered yeast in the previous section of this document, but we did want to point out that, despite many writings to the contrary, yeasts are not just found in the air. They are also found in the soil and from there are able to enter plants and travel through the plants to fruit that may be attractive to them, as we have discussed in a previous newsletter.

### Mycorrhizal fungi

Mycorrhizal fungi play a number of vital functions in the vineyard, in fact they colonise the roots of more than 80% of plants that grow on this planet.

These tiny fungi are able to send out small tendrils called hyphae that locate elements in the soil such as Nitrogen and Phosphorus which are vital for plant growth and help transmit these elements in various forms into the plant. They do this by burrowing into the root of the vines and sending out the tendrils (hyphae) into the surrounding soil.

The relationship between plants and these fungi is a fascinating one because it is symbiotic. The vines receive the vital elements they need through the actions of the fungi and they, in turn, send sustenance such as glucose and fructose to the fungi.

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<sup>8</sup> Shehata et al (2012) *The Effect of Glyphosate on Potential Pathogens and Beneficial Members of Poultry Microbiota In Vitro. Current Microbiology.*

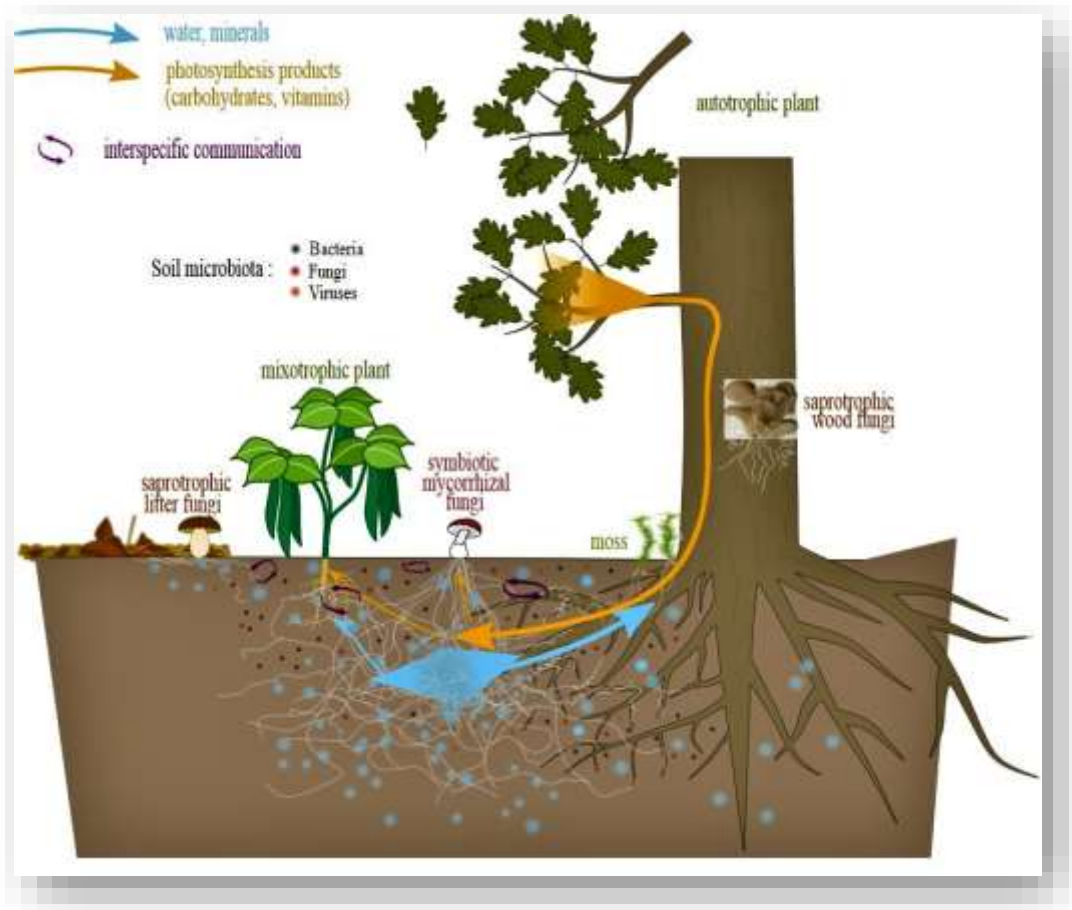


Diagram sourced from Wikipedia

There is a lot going on in the above diagram and we want to explain how this all matters for vineyards. First to the key elements of the diagram. Note that under the soil there are the roots of the plant and the tendrils of the fungi. These tendrils can, in fact, burrow into the roots of plants whether they be trees or coffee plants or grapevines.

They then set up a symbiotic relationship with the plant they have “invaded”. Notice in the diagram that the tendrils have attached to an autotrophic plant (the tree) and a mixotrophic plant (the shrub).

The blue and orange arrows show that the autotrophic tree (autotrophic means self-feeding) takes in vital molecules such as carbon dioxide ( $\text{CO}_2$ ) and water ( $\text{H}_2\text{O}$ ) from the atmosphere via photosynthesis through the leaves and converts these into sugars such as glucose.

Within the plant cell, the water is oxidized, meaning it loses electrons, while the carbon dioxide is reduced, meaning it gains electrons. (These are terms often used in winemaking for the same reasons.) Therefore, this process transforms the water into oxygen (which is then passed back into the atmosphere) and the carbon dioxide is transformed into glucose.<sup>9</sup>

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<sup>9</sup> Those of you interested in the processes associated with climate change can see that the carbon dioxide taken in by the plant is converted into sugars (which contain the carbon) and these are then passed through the plant to the fungi in the soil where it is stored.

To do this the plant needs energy from the Sun to make the transformation and water supplied through the plant from the roots and the attached mycorrhizal fungi. Notice that the blue arrows show that the water and essential elements mentioned in the section on the Periodic Table above are provided through the fungi and the roots of the plant.

The formula for these processes are:



But fungi do more than just release essential elements from the soil and make them available to other plants including grapevines. In a scientific paper by Xiaomei Cheng and Kendra Baumgartner there is proof that mycorrhizal fungi connect cover crops such as grass or legumes and grape vines and enhance the passage of essential elements such as nitrogen from the cover crop to the vines<sup>10</sup>.

As a final point, the association between plants and mycorrhizal fungi has been traced back 450 million years to the Early Devonian era according to Paola Bonfante and Julia-Andra Anca<sup>11</sup> from the University of Torino in the Annual Review of Microbiology, 2009

The paper also introduces the role of bacteria being vital to the processes that occur below the ground with a triangular relationship between the roots of plants, the mycorrhizal fungi and the bacteria that are prevalent in the zone called the rhizosphere (basically the area where the plants' roots are active). We will explore this topic further in future editions.

## Conclusion

This has been a serendipitous two part look at how some soil is created ready for the planting of vines. We have demonstrated how some soils are formed when the right bacteria attack the right rocks and break them down to make essential elements available.

We have shown in this part of the article that the life underground is essential for making the essential minerals available to plants such as grapevines and none more so than the enigmatic mycorrhizal fungi that play such an important role in transferring minerals from the soil and into the plants and also helping plants to communicate with each other. We also have suggested that certain bacteria might also assist with these processes.

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<sup>10</sup> Xiaomei Cheng and Kendra Baumgartner (2005) *Overlap of Grapevine and Cover-Crop Roots Enhances Interactions among Grapevines, Cover Crops, and Arbuscular Mycorrhizal Fungi. Soil Environment and Vine Mineral Nutrition*

<sup>11</sup> Paola Bonfante and Julia-Andra Anca (2009) *Plants, Mycorrhizal Fungi, and Bacteria: A Network of Interactions Annual Review of Microbiology 63(1):363-83*

## Grape variety: Merlot

Merlot is the child of an unknown grape and a well-known grape. The well-known parent is Cabernet Franc which is widely planted in the Loire Valley and to a lesser extent in Bordeaux. The less well known parent is Madeleine Noire des Charentes which is also thought to be one of the parents of Malbec (also known as Côt in France).

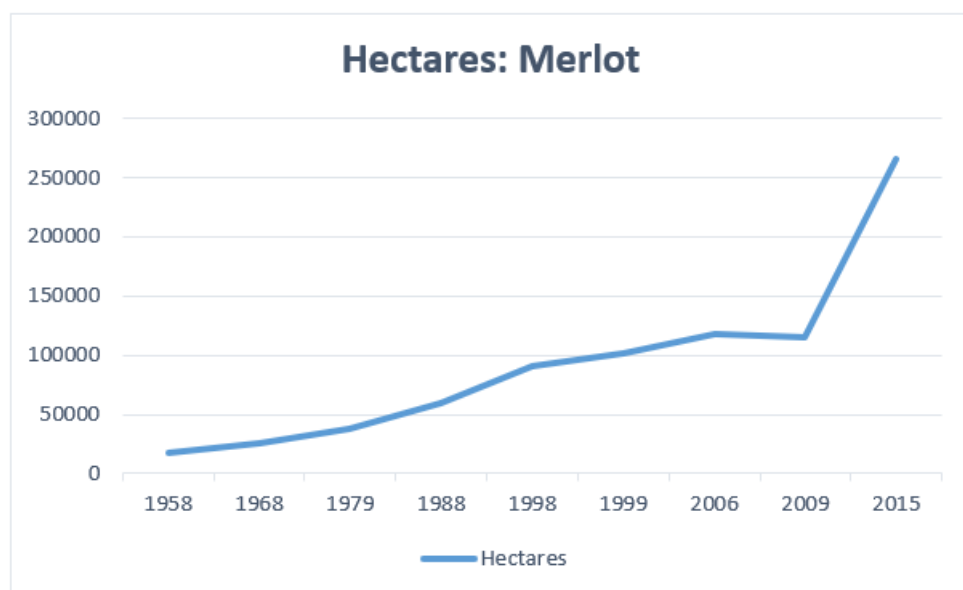
Merlot became known late in the 18<sup>th</sup> century (just before the French Revolution) when it became widely planted in Bordeaux to take advantage of its juiciness, its soft tannins and its early ripening (unlike the other favoured grape in this area, Cabernet Sauvignon which struggles to ripen in the cool, damp environment). It has since become one of the main grapes of Bordeaux, displacing Malbec which was the dominant grape in the early 19<sup>th</sup> Century.

And Merlot has runs on the board given that the famous, long-lasting Chateau Pétrus red wine is nearly 100% Merlot.

Merlot has also been widely planted in the Languedoc area of southern France where it ripens very early and often becomes overripe. However, when it is planted in the mountains at the back of the Languedoc it seems to have found its spiritual home.

The ability of this variety to produce soft, easy-drinking wines has seen it planted widely in the New World where it produces fruit-forward wines that are usually not to our liking. For example, many Chilean wines include Merlot (often blended with Carmenere). For a more interesting style of Merlot in the New World it is worth having a look at the wines produced by Leonetti in Washington.

The Vitis Web site shows that the area planted to Merlot in France has risen from approximately 17,000 hectares in 1958 to over 117,000 hectares in 2006 to become the world's largest producer of this grape variety, surpassing Italy with around 25,000 hectares and the United States with just over 4,000.



Hectares in France, courtesy of Vitis International Variety Catalogue

It is now the second most widely planted grape variety in the world.

The leaves of the Merlot grape vine are quite distinctive as shown below:

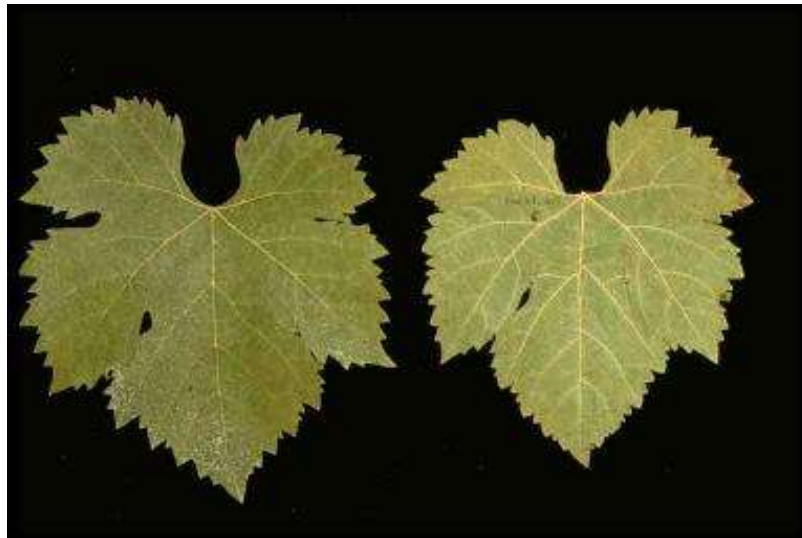


Photo courtesy of Vitis International Variety Catalogue

The bunches have large, deep-blue grapes that are not tightly packed as is shown clearly in the photo below:

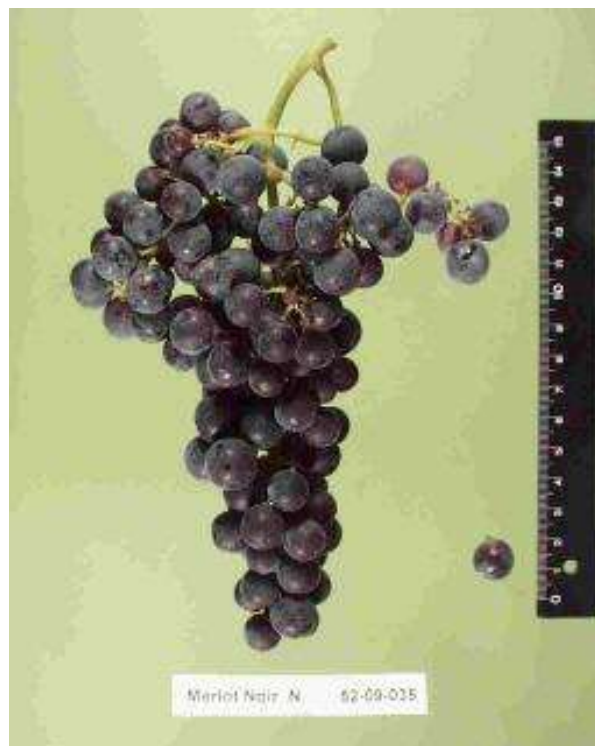


Photo courtesy of Vitis International Variety Catalogue

We have a number of winemakers who create Merlot-based wines and many of them are lighter reds rather than the blockbusters that are often produced in Bordeaux.

## WINE Talk – the newsletter of Living Wines

We particularly love the wines being produced by Laurent Roger and Melissa Ingrand in Roussillon which are invariably light reds with a delicious flavour profile and which use Merlot as one of the main grape varieties. We are thinking here primarily of the cuvée called Idoine which is made from 100% Merlot, the rosé-like Mura Mura which is mainly made from Merlot and the new cuvée called Quartet. These are all delicious and light wines where Merlot plays a starring role.

Another of our winemakers, Henri Milan from Provence, planted Merlot in his idyllic vineyards that crouch below the beautiful Alpilles mountains close to the picture postcard village of Saint Remy de Provence. Henri's aim is to produce a local version of the famous Pétrus!



This wine, called Le Jardin, is made from 100% Merlot grapes and is matured in 90% old oak barrels and 10% new oak. Production is small with only 2500 bottles made each year.

In the Ardeche, Samuel Boulay makes a beautiful wine from 50% Merlot sourced from the vineyard immediately outside his back door. He also makes another wine called Baltringue that comprises 95% Merlot with the addition of 5% Viognier (very common in this region). Unfortunately, both of these wines have sold out.



## **WARNING**

Under the *Liquor Licensing Act 1990* it is an offence:

**for liquor to be delivered to a person under the age of 18 years.**

*Penalty: Fine not exceeding 20 penalty units*

**for a person under the age of 18 years to purchase liquor.**

*Penalty: Fine not exceeding 10 penalty units*

Because of the above penalties we are now required by the Tasmanian Government to collect your date of birth from you when ordering via the Internet. We apologise for this imposition. In the past we have been able to accept a declaration that you are over 18.