Monty Waldin's
Best Biodynamic Wines

Monty Waldin's
Best Biodynamic Wines

Floris Books

Published in 2013 by Floris Books

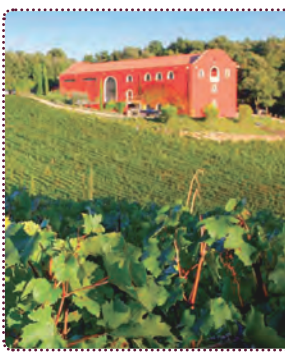
This book is also available
as an eBook

British Library CIP data available
ISBN 978-086315-960-2

Printed in Poland

To the wine-growers

CONTENTS



Preface

When asked how I got into this business, my honest answer is a big nose and lazy temperament make me well suited to a life sniffing wine.

Around age ten I made my first wine at home from tap water, supermarket oranges, supermarket sugar and yeast from the chemist. It was wonderfully unpalatable. I'd been interested in wine before I could drink it, and at secondary school, despite the suggestions of my teachers, I already knew my path wasn't academic. My mind was made up: wine.

Also at a young age I recognised that nature is smarter than humans, and that smart humans who work with nature understand this. My father was one of those humans. He was a teacher and headmaster who grew up during the Great Depression of the 1930s. He told me that when the horse-drawn milk dray arrived in his street, the boys would all try to be first filling their pails with milk. My dad, meanwhile, would run to collect any manure the horse had left and use it to grow tomatoes for the family.

When I was young, he would take me to collect leaf mould for the garden. Leaf mould is just fallen leaves left to decompose over time: a dark, crumbly wild compost if you like. We'd go to a coppice in a field behind our house to find it. We'd fork it into a wheelbarrow, and its earthy, forest-floor smell was even better than fresh-baked bread to me. We'd use leaf mould to feed the soil as compost or as a mulch around plants. Mulching stopped weeds growing and made watering our vegetables and strawberries more efficient, especially in the famously hot British summer of 1976 when I was nine.

I was an enthusiast in the garden, willingly collecting leaf mould and also cow manure. I was not such an enthusiastic student in school, however, and risked failing a crucial French examination. So I was packed off to France for a summer.

St-Émilion in Bordeaux, France.

I chose to work for a small château near St-Émilion in Bordeaux, the world's biggest and most prestigious wine region. Instead of studying French, I spent most of my time there reading wine books and examining the local vineyards.

I'd assumed that all wine was grown like our family vegetables. We always had weeds in our home vegetable garden and managed them by leaf-mould mulching. I was surprised to find so few weeds growing around the Bordeaux vines, and stunned to hear they were routinely sprayed off with weedkillers. Yet people were still prepared to pay huge sums for bottles of wine because supposedly the liquid inside spoke of its unique 'terroir' or sense of place. How could you have wines tasting of their place while removing the whole ecosystem from the vineyard using herbicides so hazardous you had to wear a mask to spray them?

A few years later in the early 1990s, I began selling wine in London. Our shop listed as many organic wines as possible. It helped that the first rules legally defining organic farming had just been enacted in Europe (in 1992).

Although welcome, these rules implied organics was more about what farmers were *not* allowed to do than what they should or could be doing. Organic farmers could not use chemical herbicides, organophosphate pesticides, soluble fertilizers and plant-penetrating fungicides.

Then in 1993 I returned to work in Bordeaux. Marc Quertinier, a sixty-something oenologist, used to lunch at the chateau where I'd continued to odd-job since my first visit as a schoolboy. Based in Bordeaux, Quertinier had worked with or informally advised almost every top Bordeaux château, winemaker, professor and consultant I'd ever heard of, but in a truly under-the-radar, self-effacing way. He suggested I go and meet Paul Barre in Fronsac (see p. 193). Paul was a biodynamic grower, the first I'd ever met. Marc had heard my ranting about my belief that the more soluble fertilizers and chemical sprays were applied to the grapes, the more additives and other corrective treatments were needed subsequently in the winery.

The winery where I worked was typical of this highly interventionist approach. This did, though, make it a great place to learn, because I got to use almost every 'modern' wine-growing and winemaking tool available. My conclusion was that many of these modern tools were expensive, unnecessary and were not working. Our vines were clearly getting weaker, and the wines were becoming more boring to drink. The chateau was on its way to bankruptcy.

Quertinier knew this. I sensed he agreed with my perhaps rather simplistic notion of letting vines express themselves by working with nature rather than making war on the vines with a different chemical every morning. Our chateau's storeroom was literally overflowing with dilute wines we'd had to pump up artificially yet legally with sugar and colour, but which we still couldn't sell. Despite this, we continued using really expensive soluble fertilizers to boost yields. It was a vicious circle that made no sense.

Quertinier gave me Paul Barre's name and address in Fronsac but without mentioning biodynamics. 'Barre is doing something that might interest someone like you,' was all he said, adding, 'Fronsac is not a zone that suffers mediocrity easily and its red wines can be flat, and lacking in aroma,' as a warning. But I found Barre's wines the complete opposite. They were aromatically uplifting and texturally expressive, and had an inner vibrancy I'd never previously encountered. They were the first real Bordeaux reds I had ever tasted. I'd already visited most of Bordeaux's top chateaux, the ones with the very best soils. So I asked Barre how his vines, which had only moderately interesting soils, made such diverting wine?

He was reticent at first, shrugging his shoulders (he *was* French...) and saying that he just made his red wines in the same way as everyone else. But I trusted my nose and my nose said his wine smelt different. I didn't believe him.

I grabbed Barre's arm and dragged him out into his vineyard. His vines visibly radiated health, and the vineyard soil smelt as earthy as a forest floor. Unlike the compact, hard, bleached soils of the vineyard I'd been working in, Barre's soils were so soft I could dig my hands in.

Then Barre said his vineyard was 'biodynamic'. When I asked him what this meant he said biodynamics was a bit like organics but with some vital differences. First, biodynamic vineyards try to be as self-sufficient and biodiverse as possible. Second, vineyards become biodynamic only if regularly treated with specially prepared sprays and composts using cow manure, quartz (an abundant, sand-like mineral) and seven medicinal plants including chamomile, stinging nettle, dandelion and oak bark. Third, biodynamics makes both the vineyard and the wine-growers more aware of and sensitive to lunar and other celestial rhythms.

All of this made immediate sense to me, but I gathered from Barre's initial defensiveness he'd been worried I'd take him for a wacko.

Over the next few weeks I visited every biodynamic wine-grower in Bordeaux. This was easy. Bordeaux had 10,000 wine-growers, but only half a dozen were biodynamic. I started tracking down biodynamic wineries in other parts of France, finding small but growing clusters in Alsace, the Loire and Burgundy. I went to work in an organic German vineyard, then in a biodynamic Californian vineyard. I knew I learnt things best when doing them first-hand.

Biodynamics is the oldest 'green' farming movement, pre-dating organics by a generation. Largely people agree that biodynamic wines taste different from mainstream wines, but sceptics say this 'differentness' is nothing to do with biodynamic practices, it occurs because biodynamic wine-growers merely 'pay more attention' to the vineyard when pruning, ploughing or picking. Yet such dismissal of biodynamic techniques cannot explain why both conventionally and organically reared cows have been hit by BSE ('mad cow disease'), but biodynamic cows have never succumbed to the infection.

When I began writing about wine, I specialised in biodynamics. I knew many established wine critics would find this odd, but also

that if my tastebuds were correct in telling me biodynamic wines actually tasted rather good and were really individual, then this movement had a chance of catching on.

The number of biodynamic vineyards worldwide has been consistently growing every year since about 1989. Every major wine region worldwide has at least one biodynamic vineyard. In this book, I have profiled wines from some of my favourite biodynamic wine producers, but because the movement is growing so fast there were many I could not cover.

Before listing the wine profiles, my Introduction contains a short history of biodynamics and describes biodynamic processes for making wine.

Introduction: Biodynamic Wine

Although our generation enjoys drinking wine regularly, and we have become breezily familiar with the names of grape varieties our grandparents had never heard of, few of us would claim we have a really confident understanding of wine. There are so many different – and often very confusing – labels to choose from, and the wines inside are often described in flowery language few of us speak. Unlike beer or vodka, two identical bottles of wine from the same grape grown in the same place and made by the same person will taste different every year, or every 'vintage' in wine-speak. For wine buffs these complexities bring tears of joy and wonder. For the rest of us, wine remains an unnecessarily overcomplicated puzzle.

But we like drinking wine, and are drinking more of it than ever before, instead of our historic favourites, beer, spirits, and even cider. Perhaps this is partly because wine makes us feel less bloated than beer, so we can enjoy eating and drinking at the same time. 'Wine and food culture' is an appealing phrase.

We also seem to sense there is something special about wine, something deep-seated within us that makes drinking and appreciating wine significant, even meaningful. This may be because humans started drinking wine about the same time we swapped our original patterns as hunter-gatherers for a more settled agricultural life. About 12,000 years ago humans settled into communities and started farming. We grew what we wanted to eat rather than just letting nature decide. We started trading food, we learnt to write, and we also began wine-growing, or viticulture.

Wild vines used tree trunks to climb up towards the sun, so grapes grew on the edge of forests. Vines needed sunlight and heat to sweeten and ripen their grapes. Humans soon realised the sugary pulp in grapes would, if left alone, bubble and turn into a drier-tasting

but more strongly flavoured drink, which gave us feelings of boldness and other-worldliness.

We still depend on nature for light, heat, food and fresh water, yet most of our daily lives have become rather divorced from the world's natural rhythms and processes. Modern hunter-gatherers armed with credit cards can find fresh strawberries 365 days a year, 24 hours a day, when we should really only be able to buy them fresh once a year in early summer. We have constant availability because we can now transport anything rapidly around the world, and because we have learnt how to manipulate the elements our crops need to grow. We can eat food grown using heat and light made in factories called power stations, and fed using soil and water to which laboratory-developed, factory-made liquid food or fertilizers have been added. We can grow almost any food, anywhere.

Artificial fertilizers allow us to produce more food, more cheaply, from less land. They boost yields because they contain the three main nutrients crops need to grow: nitrogen (N), phosphorus (P) and potassium (K) (they are often called 'NPK' fertilizers). But as well as boosting farm crops, fertilizers make weeds grow more aggressively too. And artificially fertilised farm crops, including grapevines, seem to lose some of their in-built resistance to pests or fungal diseases like mildew and rot. The question remains as to whether we, who eat artificially fertilised crops, are also becoming weaker to infections.

Although all wine grapes are still grown with the natural light of the sun, their diet has fundamentally changed. Around nine out of ten bottles of wine are grown using fertilizers, plus weedkillers (herbicides), fungicides and pesticides. But recently, there has been a surge of interest from wine producers in choosing 'alternative' methods: sustainable, natural, organic and biodynamic. Advocates of biodynamic methods now include a rapidly increasing number of wine producers, both big and small, famous and unknown, worldwide.

Biodynamics offers effective, creative and sustainable solutions to common problems with grapes and wines: compacted vineyard soils lacking life and fertility, vines that struggle to resist common pests and diseases, and grapes that are increasingly complicated to ferment into wine and produce wines lacking flavour and vitality. It offers positive solutions to the problems posed by modern farming processes.

Rudolf Steiner: the founder of biodynamics

The issues surrounding the costs and benefits of modern farming techniques have troubled farmers and consumers alike since the first artificial fertilizers were developed by a German chemist called Justus von Liebig in the mid-nineteenth century. In the spring of 1924 around 130 farmer-landowners organised a cry-for-help conference at Koberwitz in eastern Germany (now part of Poland). They asked Rudolf Steiner, an Austrian, to be the main speaker. Steiner was in his late fifties and already well known for his unusual views about medicine, social reform and even children's education. He is the same Steiner who created the curriculum for the Steiner school movement (Waldorf schools in America).

Rudolf Steiner gave his advice to these farmers in a week-long series of lectures called *Spiritual Foundations for the Renewal of Agriculture* (*Agriculture*).

Steiner said what we need is to find a way of growing food and drink that does three things. First, food production should leave the farm in a better, more vital, state than it was before. Second, the food itself must be tasty and nutritionally wholesome for our bodies. Finally, food should also be good for our spirits.

Manure from their Highland cows keeps the vines strong and healthy at Burn Cottage Vineyard, New Zealand.
Burn Cottage Vineyard

Self-Sufficient Farms or Vineyards

To achieve these three aims, Steiner prescribed a general philosophy for farming, which was that each individual farm or vineyard should be as self-sufficient as possible. Farmers and wine-growers need to stop buying in fertilizer pellets to boost crops. They should avoid a system in which produce is trucked out of the vineyard each year and the nutrients it contained are then replaced with fertilizer manufactured in some far-off place. Instead of fertilizer, all green waste – the prunings, leaves, grapeskins and seeds – need to be returned to the soil through composting, and thus retained on the farm. Cycles of growth, use and replenishment should be local. The particular advantage of self-sufficiency for vineyards is it contributes to the grapes retaining their unique flavour of place – their *terroir*. That is, it helps produce wine with a 'could only come from there' taste, rather than with a 'could come from anywhere' taste.

Increasing numbers of biodynamic vineyards have horses for ploughing and manure, like these ones enjoying the view over the vines at Seresin Estate in New Zealand.
Seresin Estate

Biodynamic wine-growers must keep their vineyards fertile by making their own compost, not buying in fertilizers. All of the green waste is mixed in with animal manure. Steiner said cow manure was the best one to use, although manure from horses and even sheep can work well too. Good compost needs to be made from materials rich in both nitrogen and carbon. Fresh animal manure is nitrogen rich, while hay and straw from cow barns are carbon rich, as are shredded vine prunings. Both contain a much wider range of nutrients than factory fertilizers. And, crucially, animal manure is also absolutely teeming with life. It gives finished compost all of the microbes, like bacteria, and fungi and worms, which soil and plants need to stay healthy.

As part of the shift towards self-sufficiency, biodynamic wine-growers are encouraged to get some cows or horses as a manure source. Although most biodynamic wine-growers do still use tractors, biodynamics has sparked a growing trend in vineyards worldwide to use horses when ploughing and spraying their vines. Many vineyard workers describe being able to get closer to the vines and be more conscious of all the natural processes in the vineyard when working with a horse rather than a tractor. Horses also compact the soil less than machinery.

Tractors are still widely used on biodynamic vineyards, like this one at Sedlescombe Vineyard in southern England.
Sedlescombe Vineyard

Biodynamic Preparations

As well as recommending a general philosophy of self-sufficiency, Steiner described nine remedies for farms. Known as the biodynamic preparations, these are unique to the biodynamic method and constitute a toolbox for the biodynamic farmer or vine-grower. They are made from plants, animal manure and a mineral, so from the three so-called 'kingdoms' of nature. Steiner suggested adding six biodynamic preparations to compost piles, and to spray the other three directly on the farm and its crops. Farms and vineyards that describe themselves as biodynamic must use these preparations.

HORN MANURE 500 AND HORN SILICA 501

Rudolf Steiner was so keen on cow manure because it has an incredible fertilising power. A cow can live off the grass in one field, but, when used carefully, her manure can keep both her own field and the neighbouring field fertile. Steiner said that when we eat, two things are released into our bodies: substances like vitamins, which help our bodies grow physically, and 'life forces', which our brains need to keep us alive as sentient beings. This sounds a bit odd, but it arises from Steiner's conviction that there is more to life and the processes of life than the physical elements science can measure. Analysing living things in terms of numbers – weight, density, size and so on – gives us only half an answer, he said.

Steiner believed that cow manure is such a powerful fertilizer because it is especially abundant in life forces; that cows don't use most of the life forces in the food they eat; and that cow horns are vital to the circulation of life forces in a cow. Cows on biodynamic farms never have their horns removed. De-horning is permitted on organic and conventional farms, however.

Scientists would say Steiner's theory about the power of cow horns is complete bunkum. But no biodynamic cow has ever contracted 'mad cow disease' or 'BSE'. During his 1924 *Agriculture* conference Steiner warned of the dangers of turning vegetarian cows into meat-eaters, a practice which contributed directly to the BSE epidemic. Blood flows around the base of the horns. De-horning cows so they can be put in enclosures is a bloody business, and one

that weakens the cow and changes her nature. Cows with no horns will look at you only with their eyes. Cows with horns will perceive you by first lowering their heads and pointing their horns at you. The horns are sense organs: antennae.

Two of Steiner's preparations for assisting plants involve filling cow horns with manure or with silica (quartz), and burying them for a specific season. To make Steiner's horn manure '500' soil spray, we fill horns with manure then bury them between autumn and spring, when the earth is digesting the fallen leaves that had filled with the sun's energy during the summer. When the filled cow horns are dug up in spring, the manure inside has changed. It turns into a very dark soil-like substance, which smells of super-charged earth. This so-called 'horn manure' is teeming with all the good micro-organisms soils need to stay healthy and rich in humus. The manure from inside the horns is stirred into water in a rhythmical way. This is called dynamising, and turns the manure into a liquid, which will regenerate soil when sprayed over it.

Mike Brown at Gemtree Vineyards in South Australia, with his biodynamic preparation 500 (horn manure).

In contrast, horn silica '501' atmosphere spray is for the shoots, leaves and fruits of the plants rather than the soil. Silica, or quartz, is a hard, sand-like substance, which is the most abundant mineral on earth. It has a strong relationship with the heat and light of the sun. The most silica-rich parts of our bodies are our skin and our eyes, which react to the sun's light and heat. The silica-filled horns stay buried between spring and autumn, when the sun is high in the sky and plants are pushing their shoots and leaves up to the sun.

Dynamised horn silica is sprayed over the crops when the sun is rising, meaning early in the morning, and in spring and early

summer. It encourages plants to stretch up: you should be able to identify vineyards sprayed regularly with horn manure and horn silica, because the shoot tips of the vines will point up to the sky, as if they are really stretching themselves. In a conventional vineyard shoot tips appear more floppy. A vine can only have pointy shoots above ground if the roots underground are doing the same thing, pushing outwards and downwards, to give the vine a solid foundation.

We want wines to taste of two things: the soil or the place the vines grew in, and the individual fruit flavours different grape varieties contain. Horn manure helps vine roots to transmit a sense of place to the grapes, while horn silica ensures the grapes taste ripe enough for the wine to be enjoyable and age-able. They both also assist vines' disease resistance.

THE OTHER PREPARATIONS

Biodynamic wine-growers stimulate the vines' immune systems and deter pests and diseases by making teas and other sprays from plants growing wild in and around the vineyard. While biodynamic (and organic) growers can use sulphur- and copper-based sprays, like Bordeaux mixture, to control mildew, on biodynamic vineyards these are increasingly being replaced by plant and compost teas.

Dynamising at Sedlescombe Vineyard in southern England. Sedlescombe Vineyard

Steiner's preparations use the medicinal properties of particular common plants: yarrow flowers are used in preparation 502, chamomile flowers in 503, stinging nettle in 504, oak bark in 505, dandelion flowers in 506 and valerian flowers in 507. Yarrow is naturally rich in sulphur to prevent powdery mildew; chamomile stops vines stressing in extreme heat; stinging nettle is full of nutrients vines need, like iron; oak bark acts like an antiseptic; dandelion brightens vines to make them less disease-susceptible; valerian seals in the vitality brought to the compost pile by the other preparations; and common horsetail grows in swampy places but does not suffer swampy fungus diseases.

Steiner learnt about plants' healing powers from an old peasant called Kogutski who sold wild medicinal herbs. He met Kogutski regularly on the train when travelling to science lectures in Vienna. Steiner sensed that the intimate spiritual connection to plants that men like Kogutski had would soon be lost because science alone thought it had all the answers.

Reducing Additives in Winemaking

If grapes are naturally healthy and vital at harvest it means winemakers can make wines with a minimum of intervention and additives. The main permitted additive in all wines (organic, biodynamic, conventional) is sulphur dioxide. This helps grape juice that has fermented into wine survive in bottle rather than doing what nature intends, which is turn into vinegar. Some wine drinkers says sulphur dioxide in wine (and beer, salad dressing, fruit juice) gives them headaches or allergic reactions. If you are worried about sulphites look for wine labelled 'no added sulphites' or 'no detectable sulphites'. Sulphite-free wines are gaining in popularity among wine drinkers and winemakers, if not yet among mainstream wine critics.

Vegans should look for wines made without recourse to things like egg white and milk protein. These are added to make some wines taste smoother and look brighter. They don't stay in the wine, but drop out before the wine is bottled.

The moon rises over Avondale Wines, South Africa.

Lunar and Other Celestial Cycles

As well as a philosophy of self-sufficiency for farms, and the nine biodynamic preparations, Steiner recommended that farmers be aware of lunar and other celestial cycles. He told the audience for the *Agriculture* lectures that life on earth was a reflection of what was going on in the wider universe around us, and that we should grow our food with this in mind. Most of us have lost our connection to lunar and other celestial cycles. In 2007 the balance tipped for the first time in human history: now more of us live in cities than in the countryside. Urban light pollution means we cannot see the stars, which we feel have little relevance to our daily lives, certainly less than our twinkly iPhones and iPads. Yet everything around and inside us was once part of a star.

Both organic and biodynamic farmers and wine-growers care for the soil, but only biodynamic growers try to time farm work – pruning, ploughing, picking – to celestial cycles. For example, the full moon is seen as a time of fertility, so it is a good time to spray horn manure, and sow seeds for cover crops ('green manures') between the vine rows. The extra light and moisture the full moon generates seems to help seeds germinate better.

Most biodynamic wine-growers use celestial calendars to help them decide when best to time their work to celestial cycles, with Mathias Thun's annual *Sowing and Planting Calendar* the most popular choice. There is even a calendar *When Wine Tastes Best: A Biodynamic Calendar for Wine Drinkers* to help you decide the best day to uncork a particular wine.

The Biodynamic Movement

Steiner died less than a year after first describing his nine biodynamic preparations. Soon after his death an organisation named after the Greek goddess of the fruits of the earth, Demeter, was formed by some of those who attended his *Agriculture* course. Demeter still promotes, regulates and certifies biodynamic farming worldwide today.

Biodynamics is the first 'organic' farming movement: the organic movement we are now familiar with began in England only after

the Second World War. My experience of working in conventional ('chemical'), organic and biodynamic vineyards is that organics is a big and positive step away from conventional wine-growing, but that organics got me into a 'don't do this, you mustn't spray that' mindset. I found it restricting. It left me feeling that although I had moved beyond 'chemical' sprays I wasn't really moving forward in my farming. Biodynamics, on the other hand, gave me both some new tools and a new way of thinking.

Demeter and Biodyvin

Demeter International (www.demeter.net) is a non-profit body. It regulates and promotes biodynamic farming and food worldwide. Food and wine carrying either of Demeter's two logos is officially recognised as biodynamic as long as they comply with the relevant Demeter Standards. All biodynamic farms and vineyards must also comply with the international rules laid down for organics. These can be summarised as: no weedkillers (herbicides), no synthetic pesticides or fungicides, and no genetically modified organisms (GMOs). There are Demeter-certified farms in nearly fifty countries worldwide.

France's Syndicat International des Vignerons en Biodinamie (www.biodyvin.com), or the international biodynamic winegower's syndicate, only allows biodynamic wine-growers as members rather than biodynamic farmers in general. It is known as 'Biodyvin'.

In Australia, vineyards and farms can be certified biodynamic by either Demeter Australia or by government-appointed agencies.

The vast majority of the wines in this book are from certified biodynamic vines, or certified organic vineyards in which biodynamic practices are used. I have given details in each profile.

THE NINE BIODYNAMIC PREPARATIONS

Each of the nine biodynamic preparations can be referred to by name or by number. They are:

THREE SPRAYS

Horn manure '500' soil spray

Horn silica '501' atmosphere spray

Common horsetail tea or liquid manure '508' soil or crop spray

SIX COMPOST PREPARATIONS

Yarrow '502'
from the flowers of *Achillea millefolium*

Chamomile '503'
from the flowers of *Matricaria chamomilla*

Stinging nettle '504'
from *Urtica dioica*

Oak bark '505'
from *Quercus robur*

Dandelion '506'
from the flowers of *Taraxacum officinale*

Valerian '507'
from the flowers of *Valeriana officinalis*

Conclusions

Wine is a luxury item in our diets, not a necessity, so there is an extra onus for wine to be grown in a way that puts something back into the earth it comes from. Leaving the earth poorer and our neighbours to clean up pollution from controlling weeds and diseases is unfair. The public rather than farmers pay to clean this mess up. Cheap wine comes at a price, after all.

More and more wine-growers are switching to greener methods. Nearly 5 per cent of the world's vineyards are now organic or biodynamic.

We want wines to have a sense of place. In other words a chardonnay from the cool limestone soil of Chablis in northern France should taste different to a chardonnay from warmer, sandier soils along France's Mediterranean coast. Steiner's biodynamic method is a highly effective way for wine-growers and their vines to reconnect with their soil and thus with place.

Farming with biodynamic compost and the spray preparations plus plant teas is cheap, effective, safe and low-tech. Anyone, even kids, can make the nine biodynamic preparations.

As shown in the experiences recounted through the wine listings that make up this book, biodynamics is better for the environment, better for wine-growers and workers, can help create a sense of local community around a vineyard, and can provide wines with rich individual character.

Biodynamic wine is something we should all raise a glass to.

WHITE WINES

White wines are made by squeezing the juice from the grapes – usually those with green or yellow skins rather than red ones – and fermenting this juice on its own without the grapeskins. (On the whole, red grapes are not used in white wines though they are used in champagne.) White wines are a bit more fragile than reds; their aromas are easily lost if they are allowed to ferment too hot. So white wines ferment at cooler temperatures: about 15–20°C (60–70°F). To squeeze the juice out, most winemakers put the grapes in a wine press. Slow gentle pressing yields the best juice, meaning juice with clear and fruity flavours rather than murky or bitter ones. The juice will usually be allowed to settle overnight in a clean tank so impurities fall to the bottom. The clear juice is then racked, meaning run off, and then fermented in either a tank or an oak barrel. Barrel-fermented white wines will pick up oak flavours, which add complexity to the wine. Some grapes are more suited to barrel fermentation than others, chardonnay being a good example. To avoid excessive oaky flavour in, say, a chardonnay, the

winemaker may ferment some of the juice in barrels and the rest in a tank made of a neutral material, like steel, fibreglass or cement.

Another decision for makers of white wines is whether to allow the wine to undergo a second 'fermentation' naturally. Bacteria (rather than yeasts) change apple-tasting, or 'malic', acid in freshly fermented wine to softer, creamy-tasting 'lactic' acid. This acid softening conversion is rather confusingly called the 'malo-lactic fermentation', even though no alcohol is produced by it. In hot climates, such as Australia, makers of white wines will stop this process from happening, because the sun burns most of the acid out of the grapes while they are still on the vine. Low-acid wines don't age well and their fruit flavours soon turn bitter in the bottle. In cooler climates, such as Burgundy, the grapes may have so much appley acid it might make sense to let the bacteria chew some of it out of the wine before it gets bottled.

Finally, makers of white wines must decide whether the wine will be dry, off dry or fully sweet (most red wines are bottled dry or near dry). Some grapes, like chardonnay and sauvignon blanc, are best suited to dry styles, meaning the grapes are picked with ripe-tasting flavours and enough sugar to make a balanced wine between roughly 12 and 14.5 per cent alcohol. Others, like riesling, can be anything from bone dry to very sweet, depending on the region where the grapes are grown, whether the grapes are picked early, or very late and thus super-high in sugar, and whether the winemaker ferments all the sugar into alcohol or leaves some of it unfermented. Experience allows winemakers to seek the right balance of freshness (acidity), alcohol and sweetness for their particular grapes in any particular year.

WHITE WINES FROM SINGLE GRAPE VARIETIES (VARIETAL)

CHARDONNAY

Chardonnay is the world's most popular grape variety, making dry, agreeably fullish, classically flavoured, often slightly oaky white wines, which are as easy to drink as they are to pronounce. Chardonnay is the white grape of Burgundy, so is responsible for the steely dry white wines from Chablis, Mâcon, Meursault, Puligny-Montrachet and other sub-regions in this area of eastern France.

If you have become so bored with this ubiquitous grape that you have joined the ABC (anything but chardonnay) crew, then try a pinot blanc (see p. 75) instead.

There is some overlap between **chablis** wine and **chardonnay** wine. All chablis wine is made wholly from chardonnay grapes, but the term 'chablis', though it has in the past been used generically for 'white wine', should properly only apply to chardonnay from the region of Chablis.

Californian and Australian chardonnays are rounder, and used to be stereotyped as too oaky and too heavy in alcohol. But styles have become more elegant, with growers planting in cooler sub-regions for slower ripening grapes. These make chardonnays with fresher fruit flavours, often pretty enough to need little or no oaky disguise.

Domaine de la Boissoneuse, Chablis (Burgundy, France)

Route de Chablis, F-89800 Préhy (Yonne), France
T:+33 (0)3.86.41.49.05 www.brocard.fr

Jean-Marc Brocard started making chablis (chardonnay from Chablis in France) only in 1973, but soon became one of the region's biggest producers. From 1998 his son Julien began converting one of the family's vineyards, the 11-hectare (27-acre) Domaine de la Boissonneuse, to biodynamic methods (Demeter certified). Chablis is Burgundy's most northerly wine-growing area, and its climate can at times be bracing. This helps make its dry chardonnays characteristically lean and nervy, but, on the downside, it can also make it hard to control vine diseases. Julien says,

> *Our vines have become more disease resistant since we started using biodynamic compost, and teas made from a mix of willow, stinging nettle and common horsetail. They feed the vines in the right way while stimulating their self-defence mechanisms.*

Now more of the family's vineyards are being converted to organic and biodynamic methods. Julien makes up to 60,000 bottles of biodynamic chablis from Boissoneuse each year. The wine ferments in tanks rather than barrels, and is viscous greeny-gold in colour. It shows steely, fresh, lemony fruit with an underlying richness of grilled nuts. Julien has also started experimenting with adding no sulphur during winemaking to a small per centage of his chablis.

Terroir means that the wines gain a sense of the place where the grapes are grown.

Domaine Emmanuel Giboulot, Côte de Beaune Blanc La Combe d'Eve (Burgundy, France)

4 rue de Seurre, F-21200 Beaune (Côte d'Or), France
T:+33 (0)3.80.22.90.07

When Emmanuel Giboulot took over his father's vines around Burgundy's prettiest town of Beaune, they were already organic. 'My father's mixed farm had fruit, vines and cows. Then in the late 1950s he became the first here to use weedkillers, fertilizers and pesticides. They didn't work, so in 1970 he became one of Burgundy's organic pioneers.' Emmanuel took over in 1985 aged 24, converting the 10-hectare (24-acre) vineyard to biodynamics (with organic certification). He says,

> *Biodynamics provides physical tools like compost and spray preparations for wines to have more terroir character. But biodynamics, uniquely, also makes the spirit of the wine-grower become part of his or her terroir too. [Modern farming techniques, like] propagating vine cuttings in petri dishes rather than with seeds, have divorced vines from their origins. Vines have lost their sense of self.*

To correct this, Giboulot sprays all his vines with essences made from vine shoots, leaves and grape pips taken from his chardonnay vines in a 3-hectare (7-acre) plot called 'La Combe d'Eve'. These vines are naturally isolated from other wine-growers by trees and scrub, so there is no risk of chemical spray drift. They are also well protected from the cold north wind, lying in a mini-valley or 'combe'. Combe d'Eve produces ripe-tasting, dry white wines of real tension and precision. Fermenting the juice relatively warm and in old barrels gives the wine's lean, chalky, citrus character a roundness, adding depth to its inspiring levity. Giboulot makes around 5,000 bottles each year. Try with snails in garlic butter, a Beaune speciality.

Domaine des Comtes Lafon, Meursault 1er Cru Charmes (Burgundy, France)

Clos de la Barre, F-21190 Meursault (Côte d'Or), France
T:+33 (0)3.80.21.22.17 www.comtes-lafon.fr

Dominique Lafon cemented this estate's reputation as one of Burgundy's finest for white wines, having taken over from his father in the early 1980s. There are around 14 hectares (35 acres) of vines: a third for fine pinot noir reds from Volnay (see p. 156) and Monthélie (see p. 157), and the rest for chardonnay in Meursault and in the grand cru – or vineyard nominated as of the highest quality – of Le Montrachet (see also p. 39). His diligence and common sense in the vines, rigour and flair in the winery, and enviably rugged good looks have led one Burgundy trade buyer to describe Dominique as 'being on the side of the angels'. Nevertheless Dominique's approach to biodynamics is more practical than spiritual, seeing the biodynamic preparations (which he uses in mainly spray form) as being the best tool to revitalise ageing, flagging vines. And while Dominique says he tries to time biodynamic sprays to celestial cycles, see p. 28, he says the main thing is to get the influence of the biodynamic preparations onto the vines effectively, rather than worrying about the perfect moon:

> *If the moon is favourable but your soils are wet from rain you will do more harm than good by driving all over the vineyard with your spray rig.*

In the early 1990s, Dominique's Meursault premier cru wines from Genevrières, Goutte d'Or, Perrières and Charmes were rich, dense, viscous and sinewy examples of Burgundian chardonnay. Charmes used to be especially overloaded with nut, vanilla, acacia and honeycomb flavours. Now it is tighter, crisper, more citrussy and longer lasting: a result, says Dominique, of the biodynamic regime producing grapes that ripen earlier but with more balanced flavours.

Grand cru is an official French term for vineyards producing potentially the highest quality grapes in terms of their ripeness, complexity and flavour. Only 32 vineyard plots in Burgundy are designated as grand cru, or 'great growth'. ***Premier cru*** or ***1er cru*** ('first growth') is the second-highest classification level in Burgundy.

Domaine d'Auvenay, Auxey-Duresses Blanc (Burgundy, France)

St Romain, F-21190 Meursault (Côte d'Or), France
T:+33 (0)3.80.21.23.27

Domaine d'Auvenay, a manor with twelfth-century origins, lies in the hills above St Romain in south-central Burgundy. Its owner, Lalou Bize-Leroy, also owns Domaine Leroy (see p. 152) and is a shareholder at Domaine de la Romanée-Conti (see p. 148). Lalou inherited d'Auvenay in 1960, but has run it only since 1988, when she converted it to biodynamics (Demeter certified). Grape yields are so low, one of France's top wine critics suggested Lalou was starving her vines by giving them only miniscule doses of biodynamic compost. Lalou marched him around every plot she owned, after which she says he was exhausted, 'but graceful. He realised our vines were well cared for.' Lalou's 4 hectares (10 acres) of pinot noir and chardonnay vines comprise a patchwork of tiny plots across five far-flung villages. Her Auxey Duresses Blanc comes from half a hectare (1.5 acres) of chardonnay grapevines planted in 1972. Fermented and aged in old barrels, this wine has intensely edgy stonefruit flavours that unfurl slowly. Decant two hours before drinking. 2,000 bottles are made each year.

Domaine Leflaive, Puligny-Montrachet 1er Cru Les Pucelles (Burgundy, France)

F-21190 Puligny-Montrachet (Côte d'Or), France
T:+33 (0)3.80.21.30.13 www.leflaive.fr

Most wine critics agree that the world's best chardonnay comes from Burgundy, and that Burgundy's best chardonnay comes from the village of Puligny-Montrachet. Its Jurassic

lime-stone soils produce bone dry and initially nervy white wines, which need five or more years of bottle ageing for their fabulous richness and density to be revealed. Domaine Leflaive has more Puligny vines than anyone else. Under its visionary and shrewd matriarch, Anne-Claude Leflaive, the estate helped pioneer biodynamics in modern Burgundy. Anne-Claude felt her father's adoption of soluble fertilizers and weedkillers in the 1970s and 1980s had made the family's wines rather simple, uniform and lumbering, even if the famous Leflaive name meant they remained easy to sell. She decided the best way to convince the estate's thirty-plus family shareholders to go biodynamic was to farm one trial vine plot in three different ways: using conventional, organic and biodynamic methods. Biodynamics produced the most interesting bottles: wines that were taut, graceful, yet built for the long haul. It took ten years, from 1993 to 2002, to convert Domaine Leflaive's entire patchwork of vine plots across several villages to biodynamics (Biodyvin certified), but it was worth it because, as Anne-Claude says,

> *We found that not only do the wines now age and develop much better in bottle, but the vines are living much longer because the soil they grow in has more life.*

Domaine Leflaive produces around 16,000 bottles from its 3-hectare (7-acre) Les Pucelles plot each year. The grapes are hand picked and their juice is fermented in oak barrels. Leflaive's Les Pucelles is archetypal Puligny-Montrachet, with a delicious, lacy creaminess and a delicate touch of tropical fruit.

Domaine Guillemot-Michel, Viré Clessé Quintaine (Burgundy, France)

Quintaine, F-71260 Clessé (Sâone et Loire), France
T:+33 (0)3.85.36.95.88 www.domaineguillemotmichel.com

Marc and Pierrette Guillemot-Michel are tall and wiry. Their extremely long hair convinces you they visit their local hairdresser in the Mâconnais hamlet of Viré in south Burgundy once a decade at most. In short, they look slightly odd. Turn up uninvited at sunrise and you risk seeing Marc loping through the vines spraying horn silica 501 via two long antennae that poke skywards from his

backpack-sprayer. He resembles a human TV aerial or the fearsome outrider of a recently-landed UFO. Yet practicality is what counts here. Horn silica 501 needs to be sprayed right over the tops of the vines to help them connect with the sun's heat and light forces. Marc and Pierrette have surrounded their vines with hedges and habitat breaks for biodiversity. The vineyard is a carpet of stumpy green clovers and spindly wildflowers, providing food for the vines and encouragement for beneficial insects respectively. The soil is friable and worm-rich: Marc's foot-slogging efforts at being a human tractor pay dividends, for they avoid the soil compaction that comes with heavy machinery.

Domaine Guillemot-Michel's 6 hectares (15 acres) of chardonnay vines (Demeter certified) produce ripe, golden and healthily thick-skinned grapes. Every berry is sugar-rich, luminous and packed with mineral and fruit flavours. Both Marc and Pierrette are in fact qualified winemakers, not hippy hobbyists. You'd be hard pressed to find a deeper, clearer, riper, more precise and satisfyingly uplifting, authentic south-Burgundy chardonnay than theirs. Around 35,000 bottles are made each year.

Domaine des Vignes du Maynes, Mâcon Blanc Cruzillé Aragonite (Burgundy, France)

Sagy-le-Bas, F-71260 Cruzillé (Sâone et Loire), France
T:+33 (0)3.85.33.20.15 www.vignes-du-maynes.com

This domaine's name, 'vignes du maynes', means 'the monks' vineyards'. Cistercian monks first made wine here, in Mâcon, south Burgundy, in AD 922. The vineyards are now owned by the Guillot family, who first arrived here in 1940, escaping the German occupation of their native Paris. Although they were intellectuals rather than horny-handed men of the soil, the Guillot family played a key role in kick-starting France's embryonic organic movement in the 1950s. They felt farms were likely to produce healthier crops if treated with living composts and mineral-rich seaweed extracts, rather than with nitrogen fertilizers made by former munitions factories whose stockpiles of (potentially explosive) ammonium nitrate were being converted for use in farming. Under Julien Guillot, the third

generation of his family to farm here, Les Vignes du Maynes converted to biodynamics (Demeter certified). There are 7 hectares (18 acres) of vines: gamay for punchy red wines and chardonnay for dry whites. All the domaine's vines lie on limestone, but the oldest chardonnay vines, planted in two stages the early 1900s and in the 1950s, lie on aragonite, a unique, manganese-rich limestone, which gives the wine its name. Bone dry, but with soft, insistent, honeyed ripeness and a wet, stone savouriness, Aragonite needs at least five years in bottle to start to open up. 2,500–3,000 bottles of Aragonite are made each year.

Domaine La Soufrandière, Pouilly-Vinzelles (Burgundy, France)

Bret Brothers, Aux Bourgeois, F-71680 Vinzelles (Saône et Loire), France
T:+33 (0)3.8535.67.72 www.bretbrothers.com

The Bret brothers, Jean-Philippe, Jean-Guillaume and Marc-Antoine were all under thirty in 2001 when they made their first wines – chardonnay whites from Pouilly-Vinzelles and Mâcon-Vinzelles in southern Burgundy, and Beaujolais reds from Leynes. Their Domaine La Soufrandière comprises 9 hectares (22 acres) of biodynamic vines (Demeter certified). To pay for their own winery they started a side activity called Bret Brothers, making wine from other local growers' grapes – all from old vines. As part of this exchange, Bret Brothers advise the vineyard owners on working towards certified organic or biodynamic methods (most of their grape suppliers are in fact certified). They also send in their own picking crews (which is unusual), so the grapes are picked at exactly the right moment.

Their top Domaine La Soufrandière dry white wines from their own grapes include the greengage-fresh Mâcon-Vinzelles 'Le Clos de Grand-Père' (up to 5,000 bottles from a walled vineyard or *clos* planted with chardonnay in the 1950s by their maternal grandfather), and the richer, more multi-layered Pouilly-Vinzelles 'Les Quarts' from a

sunny slope of sandy limestone, where the oldest chardonnay vines date from the 1940s (up to 5,000 bottles). They also make a basic Pouilly-Vinzelles called simply 'La Soufrandière' from the younger vines (planted in the 1960s and 1980s) in Les Quarts (up to 10,000 bottles). Part-aged in older barrels, this is a beautifully polished, rich, ripe chardonnay. Drink within 3–5 years of the harvest.

OTHER CHARDONNAY SPECIALISTS IN BURGUNDY

...include Domaine Pierre Morey (www.morey-meursault.fr) in St-Aubin for Meursault and Bâtard-Montrachet grand cru (Biodyvin). Morey was for many years the winemaker at Domaine Leflaive (see p. 39).

Guy Bussière of Domaine de la Vouivre (www.guybussiere.fr) in the Saône valley and Dominique Derain in St-Aubin add no sulphites (sulphur-dioxide preservative) to their chardonnays during winemaking. The trend of wines being made with no added sulphites is growing worldwide.

Domaine André et Mireille Tissot, Arbois Chardonnay Les Bruyères (Jura, France)

F-39600 Montigny-les-Arsures (Jura), France
www.stephane-tissot.com

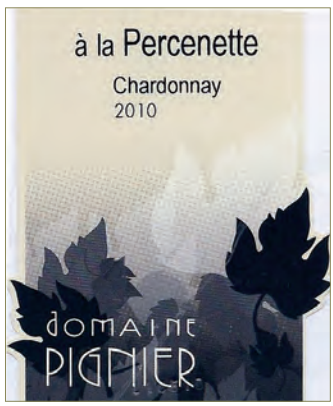
André and Mireille Tissot founded this 30-hectare (75-acre) vineyard in 1962 in Arbois, in the mountainous Jura region of eastern France. Their livewire son, Stéphane, and his wife, Benédicte, now run it. Stéphane converted the vines to biodynamics (Demeter certified) and reintroduced horses to work the smallest, steepest plots like Clos de la Tour de Curon and Les Bruyères, where vines have often been planted deliberately close together. This makes each vine fight harder for its food and water, so producing fewer grapes with deeper, more interesting flavours.

Tissot's chardonnay from Les Bruyères comes from vines mainly planted in 1938 on south-facing (sunny) slopes. The slightly blue-coloured, limey clay soils here are typical of the Jura region, and warm very slowly in spring. Tissot ferments the juice in used

rather than new barrels. He is confident enough in the quality of his soils and the health of his grapes to let it ferment with minimal intervention. The result is a chardonnay with an unusual amberish colour and breathtaking, sappy-fresh lime and ginger flavours. What I love about this wine is it has a really strong sense of place, with the kind of fullness but frankness one would expect in chardonnay from cool-but-sun-kissed soils, washed occasionally by summer rains, and clothed nightly by the Jura's cool mountain air. Tissot's hands-off winemaking allows these pure, rich chardonnay flavours to develop an invigorating sherried savouriness with four to five years of bottle age. No more than 6,000 bottles are made each year. Try with the Jura's signature dish of *coq au vin*.

Pignier, Côtes du Jura Chardonnay Cuvée à la Percenette (Jura, France)

Pignier Père and Fils, 11 Place Rouget-de-Lisle, F-39570 Montaigu (Jura), France
T:+33 (0)3.84.43.18.10 (Antoine) www.domaine-pignier.com



The Pignier family's cavernous Jura wine cellar was first used by Carthusian monks in the thirteenth century. It passed to the Pignier family when religious land was secularised after the French Revolution. Current winemaker Antoine Pignier runs the 15-hectare (40-acre) vineyard and converted it to biodynamics (Demeter certified) from 2004. He says,

Organics appealed to me as something all wine-growers can and should be doing. But when I heard about biodynamics, I felt it was a much broader way of looking at farming, going further than organics by looking at living forces, and by really making you understand the need to make your farm, your vineyard, your little patch of land into something self-sustaining. Biodynamics has really helped me to evolve as a wine-grower.

The Pignier family is lucky in that they have the only vineyards in Montaigu 'so there is no risk of any drift from neighbours spraying chemicals,' says Antoine. 'In fact, all our vines are surrounded by fields in which cows are grazing or by meadows.' Antoine sprays the vines with whey from local cows' milk (used to produce the local Comté cheese) to help disinfect them of fungus disease organisms. Wild plants like meadowsweet, chamomile, dandelion and stinging nettle are gathered from the surrounding fields to make teas to stimulate the vine's immune system. Rainwater is used for spraying.

Over the last decade the Pignier's huge range of Jura wines (red, white, pink and sparkling) has become clearer, more vibrant and more focussed. And the wines last longer in bottle, too. Their chardonnay La Percenette (which is named after the plot it comes from) has a bone-dry, almost austere, mineral feel when you smell it, typical of what one might expect from chardonnay grown on cool, hard, clay-rich limestones, but then on drinking, it has a satisfying, creamy, rich fullness.

Grgich Hills Estate, Chardonnay Carneros Selection, Napa Valley (California, USA)

1829 St Helena Highway, Rutherford, CA 94573, USA
T:+1 707.963.2784 www.grgich.com

Grgich Hills produces what many consider are the Rolls Royces of Californian chardonnays: strong, elegant wines stuffed as full of history as they are of technical excellence. Croatian-born Miljenko 'Mike' Grgich pitted a 1973 chardonnay he had made against the best of France at a blind tasting held in Paris in 1976, and won. The so-called 'Judgement of Paris' was a seminal moment in California's wine history, granting it self-belief as a world-class wine region. It gave Grgich and his business partner, Austin Hills of Hill Bros coffee fame, the confidence to open their Grgich Hills winery the following year. There are 150 hectares (370 acres) of vines across five separate vineyard sites in Napa Valley.

If you want a full-bodied, blockbuster chardonnay then try Grgich Hills' Napa Valley Chardonnay. If you want something with more crispness yet almost as much power, try their Carneros

Chardonnay. It's from a sub-region of Napa, which is especially chilly, as it is closer to the Pacific and gets cool, ocean-driven fogs. Carneros produces some of California's top pinot noir reds and chardonnay whites and, having helped make Carneros chardonnay for another winery there, I think Grgich Hills produces an absolute beauty in terms of its smoothness, richness of texture, precision and lift.

The Carneros vines are relatively young, and have a long life ahead, but it was the realisation that Grgich Hills' older vineyards (planted in 1959) were succumbing to pests and diseases ahead of their time that led Grgich to trial biodynamics and then adopt it across the entire estate in 2006. As well as being America's largest Demeter-certified biodynamic wine-grower, Grgich Hills is also fully solar powered, from a network of panels installed on the winery roof. This is a winery with a strong identity and sense of its past, but with a very definite view of its future, too.

Cobaw Ridge, L'Altra Chardonnay, Macedon Ranges (Victoria, Australia)

31 Perc Boyers Lane, East Pastoria, Victoria 3444, Australia
T:+61 03.5423.5227 www.cobawridge.com.au

In the 1990s, Australia cemented its place as a serious player on the world wine stage with its big, buttery, alcohol-rich chardonnays. As tastes changed, Australian chardonnay repositioned itself, becoming zippier and fresher but still with amazing levels of fruit intensity. Currently nowhere outside France produces chardonnay of such range, interest and quality as Australia, both for everyday drinking and for special occasions. Joshua Cooper of Cobaw Ridge is a prime example of a younger generation of Australian winemakers who see biodynamics as a key tool in creating wines with stronger, fresher flavours but lower alcohol levels. Joshua's parents, Alan and Nelly, founded Cobaw Ridge in 1985 in the Macedon Ranges north of Melbourne. There are 5 hectares (12 acres) of biodynamic (certified organic) vines, including shiraz and the rare lagrein for reds, and

Opposite: The American Canyon Vineyard where Grgich Hills Estate grows their chardonnay grapes. Rocco Ceselin

chardonnay for whites. The sandy granite soils at Cobaw Ridge, allied to the vineyard's high altitude of over 600 metres (2,000 feet), combine to produce chardonnay with incredible lightness and elegance given the intensity of its tightly layered, lime flavours. For his 'L'Altra' chardonnay, Joshua ferments the juice in oak barrels and bottles it unfined and unfiltered to preserve its mealy wholesomeness. A wine that is a meal in itself.

TOP SOURCES OF BIODYNAMIC CHARDONNAY OUTSIDE FRANCE

...include Günther Schönberger (www.weingut-schoenberger.com) in Austria (Demeter certified), Bergström in Oregon (see p. 162) and two Australian wineries: Sorrenberg (www.sorrenberg.com) in Beechworth, Victoria (Demeter certified) and Cullen in Western Australia (see p. 205).

CHASSELAS (GUTEDEL)

Chasselas is an uncomplicated white wine grape grown mainly in Alsace, Germany, and Switzerland. The German name for it is *Gutedel* and the Swiss call it *fendant.* Chasselas is one of the few wine grapes also used as a table grape. Some of you may even grow it up pergolas in your back gardens for eating.

Weingut Wilhelm Zähringer, Heitersheimer Maltesergarten Gutedel (Baden, Germany)

Johanniterstraße 61, D-79423 Heitersheim, Germany
T:+49 (0)7234.50 4890 www.weingut-zaehringer.de

The Zähringer family's 9-hectare (21-acre) vineyard is in the Markgräflerland sub-region of Baden, southern Germany. It has been organic since 1987 and biodynamic since 2010 (Demeter certified). This is as green a vineyard as you could wish to find, not least because