SUSTAINABLE VITICULTURE: THE NEW GREEN?

Sustainable is the word of the moment for wineries aiming to be environmentally friendly. But what does it actually mean, asks **BEVERLEY BLANNING MW**

At a roadside lunch stop in Portugal a couple of years ago, I was amused to see the restaurant's wine list divided into three categories: red wines, white wines and green wines. The Portugese were referring, of course, to vinhos verdes, but it seems only a matter of time before we see 'green' wines featuring on many lists, as producers across the globe embrace more environmentally sound practices.

'Green' has never been more prevalent, or more fashionable, than it is today, and it is increasingly used interchangeably with the new buzzword, 'sustainable'. Wine producers in Oregon, Bordeaux, California, South Africa, New Zealand – and probably most other places as well – are fighting to be the first, the best, or the leader in the field. So is sustainability really the new green? And what exactly does it mean to be sustainable?

Until quite recently, the term 'green' carried fairly simple connotations of organic grape growing. Most people now know that organic standards prohibit the use of synthetic chemicals, with the aim of protecting the crops, soil, the environment and human health. Regular readers of this magazine will also be

familiar with biodynamics, a more holistic and spiritual form of organics that imposes tougher rules on producers, requiring them to consider their farm as a living organism that does not rely on external sources for inputs. The continued health of the land is assured via the addition of compost and herbal preparations. These 'alternative' forms of viticulture (in particular, organic practices) have gained widespread acceptance from producers and, increasingly, the public. They stress the importance of more natural grape growing to maintain the ecological balance and long-term sustainability of the vineyard.

But there are now many alternative options available to wineries wishing to promote their environmental credentials. Numerous bodies have sprung up offering certification in return for commitment to so-called sustainable practices, and each is vying for credibility in the increasingly crowded earth-friendly marketplace. One of the first of these was LIVE, which stands for Low Input Viticulture and Enology, an Oregon initiative founded in 1997. LIVE growers proudly state that 23% of the state's vineyard land is certified as sustainable, organic or biodynamic. The descriptions

Above: Biodynamic producer Rippon's vineyards in Central Otago. Facing page and right: James Millton with his biodynamic manure and its producers

PHOTOGRAPH: ANDY CHRISTODOLO/CEPHAS

of the different practices are pretty much in line with what one might expect and are perhaps in the original spirit of producing wine in a way that cares for the future health of the vineyards.

Finding a definition

Elsewhere, distinguishing one set of sustainable practices from the next is less straightforward. Hands up if you have heard of CarboNZero, Green Globe 21, Sustainable Winegrowing New Zealand, Environmark or Sanctuary Habitat Rehabilitation? These are all programmes supported by one company, New Zealand's Grove Mill, the world's first carbon-neutral winery (see box, p42). Each of these five programmes carries its own stamp, and it seems clear that the company is genuinely committed to protecting the ➢

environment. But none of these programmes requires Grove Mill to farm organically.

Several wineries are exploring the options of carbon offsetting, whereby they make a contribution to have trees planted, thus replacing CO_2 lost to their practices, to reduce their negative impact on the environment. But the 'carbon neutral' debate is anything but neutral. Organic growers, riled by the environmental claims of their non-organic competitors, point to the greater imperative of looking after one's own land first, before doing damage and just stumping up cash to pay for it. Nick Mills, of family-owned biodynamic producer, Rippon Vineyards, in New Zealand, says: 'I think it is fantastic that a product can be produced carbon neutrally, but washing one's hands of the impact that current agricultural practices place on the land, just by planting some trees somewhere else, seems irresponsible.'

Fellow Kiwi radical James Millton, of Millton Vineyards, is even more irate: 'It's a load of skukduggery,' he says. 'In the end, you are looking at a carbon footprint, but are you looking at your own footprint? The sustainable people need to realise there is further to go.'

Defining exactly what sustainable means is a tricky business, because it is such a broad term. There is no single definition, but The University of California Sustainable Agriculture Research and Education Program defines sustainable agriculture as addressing the three main goals of 'environmental health, economic profitability, and social and economic equity'. Common sustainable practices include integrated pest management, recycling bottles, and using solar energy and biodiesel fuels. In contrast to organics or biodynamics, however, it is not just about practices relating to growing grapes. It can include, for example, policies on electricity and water usage, waste management, packaging, transport and employee welfare. Dr Ann Thrupp, manager of sustainability and organic development for California producer Fetzer (see box, p41) describes sustainability as 'a broad, holistic concept'.

Sustainable Winegrowing New Zealand claims that 65% of the country's vineyards are managed under their rules for sustainability, but it's hard to establish what the rules are (I've never managed it, despite six months' worth of discussions with NZ Winegrowers, which stresses that the self-audit is a 'living document', so is always changing... which is a rather convenient way round hard and fast rules). The vague official line is 'using best practice, environmentally responsible and economically viable processes', which covers re-use of energy and recycling etc. One has to imagine, though, that the criteria might be different from, say, the Oregon growers, who can only manage a paltry 23% of participation under their rules. The New Zealanders plan to have every winery in the country included in their programme within five years.

This may not be too ambitious, given that SWNZ has different levels of membership: accredited member (where you have to meet certain criteria) and member (available to anyone, regardless of their actions). The programme also offers separate membership for wineries and vineyards, meaning that a winery can be accredited and use the SWNZ logo on all its marketing materials, put up a sign outside the winery and so on, while continuing to follow whatever practices suit best in the (non-accredited) vineyard. The only place the SWNZ logo actually relates to the grapes is if it appears on the bottle. In this case, the grapes have to be from 100% certified accredited vineyards.

The wide-ranging nature of sustainability programmes, frequently

Why do people buy organic wines...?

55% say because pesticides & fertilisers are bad for the environment

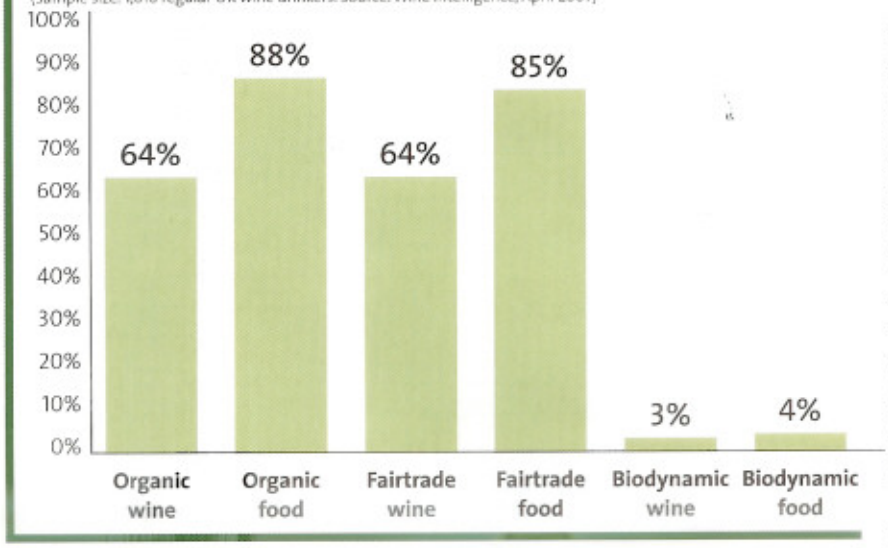
44% say because it supports smaller producers

38% say because it makes them feel good about buying and eating natural products

Above: Nick Mills of Rippon Vineyards believes that to be truly carbon neutral you need to look after your own land first

ARE PEOPLE AWARE OF ORGANIC WINE OR FOOD?

Base = All regular UK wine drinkers
(Sample size: 1,010 regular UK wine drinkers. Source: Wine Intelligence, April 2007)



portrayed as their strength, means that the focus on 'green' winegrowing is diminished. An environmental management system, such as SWNZ, does not necessarily relate to the environmental soundness of the wine produced; rather, it relates to the company producing it and the audited systems it has in place. The difference is important. After all, since sustainability seems to include anything and everything related to a vineyard's activities, how can one know which of these elements is the most important? Is it more pressing to offset carbon, or to save water? To ensure economic viability, or to be more environmentally aware?

In a study last year attempting to evaluate the true environmental cost of producing a bottle of wine, researchers from the University of Palermo made the point that, 'a producer of toxic or carcinogenic substances can obtain EMAS (Eco-Management and Audit Scheme) registration in spite of its products being far from ecological.' This is one of the reasons why sustainability initiatives aren't generally mentioned on the bottle: the audited elements of sustainability don't necessarily relate to the contents therein. Unlike traditional systems of organic or biodynamic culture, the concept of 'sustainability' carries no guarantees of green practices in the vineyard.

To get around the problem of systems that don't take the end product into account, the Italian researchers favoured the beautifully acronymed POEMS, or Product-Oriented Environmental Management System, for their study of a Sicilian winery. The group found that indirect inputs were the major culprits for energy use in the winery. Researcher Maurizio Cellura, a professor of environmental physics at the university, comments on the most remarkable ➢

Why do people buy organic food?

30% say because it tastes better

Why do you buy organic wine?

18% say because it tastes better

BUT...

64% of those who have recently purchased organic wine can't remember its name

SUSTAINABILITY'S BADGES OF HONOUR

Agriculture Raisonnée: A sustainability programme set up in 2004. As Claude Richard, of the Forum de l'Agriculture Raisonnée Respectueuse de l'Environnement (FARRE), explains, it was born as a result of political pressure on farmers and the government for agricultural products to be seen to respect the environment. He adds: 'The idea was that it should be accessible to all farmers, to show they are making an effort.' The key features include: staff training about agriculture and the environment; traceability of actions in the vineyard; compulsory soil analyses; recording vineyard observations to justify use of chemical sprays...

Sustainable Winegrowing New Zealand: Unconditional, free membership for any winery. Only accredited members can use the SWNZ logo. Accreditation based on self-audited scorecard system, independently audited every three years. A winery can be accredited, even if its vineyards aren't. Covers: soils and fertilisers; ground cover and irrigation management; pests and diseases.

Integrated Production of Wine: Formulated by the South African Wine & Spirit Board. Covers 90% of wines produced. Wineries fill in a series of evaluation forms, are independently audited and achieve a score of 65% to achieve certification. Covers: training on integrated pest management; conservation of natural areas; choosing the best varieties for the land; soil cultivation; vine nutrition; irrigation; pest and disease controls; chemicals.

California Sustainable Winegrowing Alliance: Promotes voluntary high standards of sustainable practice, via self-assessment and education. Participants contribute data to monitor state-wide adoption of sustainable practices.

Low Input Viticulture & Enology (Oregon): Growers fill in a scorecard, assessed annually. A score of 50% must be achieved. A score of zero indicates that conventional practices are used. Bonus points are awarded for actions aimed at improving grape quality, diversification of the eco-system and reducing chemical inputs. A single unacceptable action will cause disqualification of the grower.

Above: Hunter's Wines is accredited by Sustainable Wine Growing New Zealand

finding of the group: 'Around 50% of the environmental pressure of the wine was due to the glass bottle,' he says. Equally interesting is the second largest energy input, accounting for 20% of energy consumption: fertilisers, biocides and sulphur. This suggests that the broad-based sustainability programmes could do more in future by focusing on the most unsustainable areas of activity.

The chemical factor

The production of agrochemicals requires huge amounts of energy but, unlike in the Palermo study, this is rarely taken into account when measuring sustainable practices. The environmental impact of chemicals in the vineyard is an even thornier issue, and one that sits uneasily within the remit of all-inclusive sustainability programmes. Arguably, though, this issue should be at the very heart of sustainable vineyard practice. A 2005 report from French public agricultural research institutes, INRA and Cemagref, attempted to find solutions to the unsustainable use of pesticides in French agriculture. Vineyards were noted as being among the heaviest users of pesticides. The report blamed the development of intensive systems of agriculture and the low cost of pesticides – along with producers' reluctance to reduce their yields. The authors consider that the 'reasoned' use of pesticides (as favoured by sustainability programmes) is likely to be a 'transitory phase in a strategy of reducing the need to resort to pesticides'.

Of course, followers of biodynamics are keen to point out that the 'new' sustainable viticulture is nothing more than what they've been doing all along. ➢

ARE PEOPLE BUYING ORGANIC?

Purchased in the last 3 months. Base = those aware of product type
(Sample size: 1,010 regular UK wine drinkers. Source: Wine Intelligence, March 2007)

FETZER: TAKING THE LEAD

When it comes to large-scale wineries, Californian producer Fetzer leads the way in terms of its long-term commitment to sustainability. It even has a sustainability and organic development manager, Dr Ann Thrupp (below right), who says: 'It's equally important to address the vineyards and the winery when thinking about sustainable practice.'

The company farms all of its own land (800 hectares) organically, and is active across a broad range of projects. Comparing organics and sustainability, Thrupp says they are inter-related: 'Organics is a very specific, legally defined term that focuses on inputs to prevent problems from the use of synthetic chemicals. It incorporates biodiversity, but ultimately it just focuses on farming practices.'

Thrupp can reel off a long list of Fetzer's sustainable credentials: bottles are 40% recycled glass; winery pomace (pulp residue after pressing) is recycled into compost; since 1990 the company has reduced its waste to landfill by 95%; biodiesel is used in tractors to reduce greenhouse emissions; in the winery, tanks are insulated to make refrigeration more efficient. The barrel room has earth banks around the sides, removing the need for cooling. The company has also funded research into water management and waste-water disposal to improve its use of this increasingly scarce resource.

Even Fetzer's winemaking techniques have sustainable goals: in 2005 micro-oxidation was introduced, requiring less oak, less water for cleaning, fewer chemicals and less natural gas to heat water for cleaning. Unfortunately, Fetzer has not managed to convince more than a handful of its contract growers to follow its organic lead. Thrupp says: 'It was not realistic.' In the end, sustainability comes down to a state of mind and a willingness to change. Thrupp adds: 'People always think all of this is expensive. Most of it has economic rationale – green practices work for the bottom line.'

Encouraging biodiversity, leaving areas unplanted to create natural habitats, observing what happens in the vineyard and avoiding recourse to chemicals are all routine practice. Jim Fullmer, head of biodynamic certifying body Demeter, in the US, says: 'With biodynamics you develop your own natural ecosystem that gives you a biological system of checks and balances, rather than a manmade one. It's the last entirely self-sustainable farming system, and it has clout because it's been around for so long – it predates all the organic discussion by decades.'

Biodynamics for all is an unlikely scenario, but some form of sustainability – or accountability – in viticulture is becoming a necessary practice. Nobody wants to think that wine, of all things, is the product of a polluted environment. Reading the guidelines of the various sustainability initiatives around the world is a depressing reminder of the wholly unnatural nature of the 'conventional' agriculture of recent decades. It is reassuring that action is being taken to protect the land for future generations, but these are the early stages of a growing movement that will be driven more by individuals' commitment than by marketing-led initiatives. Sustainable viticulture today feels like frantic collective back-pedalling of the wine industry to try to undo some of the damage of the past. D

THE CARBON NEUTRAL ISSUE by Jane Anson

An Inconvenient Truth might have been an important piece of film making, but it's taken Leonardo di Caprio's *The 11th Hour* to really make carbon neutral sexy. Everywhere you look now, big business is declaring itself carbon neutral, displaying the logo at the bottom of emails and beside company letterheads – and an increasing number of wine producers are following suit.

The wine industry is hardly the world's worst culprit, but there is an impact on the environment in terms of packaging, tractors, transportation, fermentation, vinification and treatment of the vines, and of course bigger brands such as Gallo or Jacob's Creek produce such volumes as to have a more serious effect.

Today, perhaps 10 vineyards in the world have declared themselves carbon neutral – or are seriously working towards it – and most are in New Zealand, California or South Africa. These wineries are looking to limit their carbon footprint, whether in their own vineyard or by investing in green projects elsewhere. Being carbon neutral means that any carbon dioxide emissions created during the process of making or delivering the wines must first be measured and then either reduced by using environmentally friendly techniques, or balanced out by planting trees or investing in other carbon-friendly schemes.

Backsberg in Stellenbosch has led the way in South Africa, where the wine industry as a whole is perhaps the most vocal globally in its support for the environment, not least because its 'biodiversity' campaign resonates perfectly with the idea of protecting nature. Michael Back has hired a full-time environmentalist to do a full carbon audit and look at how to become more energy efficient, introducing a number of ventures, from planting eucalyptus trees for renewable energy to burning litter from chicken sheds to produce heat.

Grove Mill in Marlborough, New Zealand, states its carbon aims clearly: measure, manage, mitigate. In 2006, it offset more than 300 tonnes of carbon dioxide by investing in carbon-balancing schemes that plant trees and finance renewable energy projects – and its label states that all carbon has been offset not just in the making of, but the delivery of its wine. The company also produces lighter glass wine bottles and packaging is kept to a minimum, and even in the vineyards, longer rows of vines have been planted to limit the amount of times tractors need to turn, and therefore conserve fuel use.

France is also catching on. Bordeaux's Despagne family has had environmental certification for several years but is now moving towards more far-reaching green practices: sharing waste disposal, pooling equipment, and developing biofuels. Boisset, over in Burgundy, is developing a fully carbon-neutral wine, sold primarily in the US, in Tetra Pak style boxes.

Does this have any effect on the wines? It's unlikely, but many of these initiatives are expensive to implement, and do reveal a conscientious attitude that instils confidence in other aspects of winemaking. But possibly the biggest effect will be on the price of the wines (higher) and their sales (higher), as the fashion, and necessity, for carbon neutral purchasing really takes hold.

THE US APPROACH by Janice Fuhrman

In the US's four largest wine-producing states – California, Washington, New York and Oregon – 'sustainable' is the buzzword of the decade. But, lacking any scientific or legal definition, the term can be slippery.

So vintners in California, which produces 90% of US wines, are developing a statewide programme for sustainable certification. 'It proves to everybody that you are going through the steps of farming sustainably,' says Sonoma vintner Chris Benziger. 'Lots of people say "We practise sustainability", but don't follow any rules, so they can have the illusion of sustainability without the burden.' California has had a voluntary Sustainable Winegrowing Programme since 2002.

Oregon wine growers were the first in the nation to develop certification from the International Organisation for Biological Control in Geneva through the LIVE programme (Low Input Viticulture and Enology). Some 23% of planted vineyard land was certified, including sustainable, organic and biodynamic, by autumn 2007.

VineBalance, guidelines for farm management, has just been completed in New York, and in Washington several organisations provide information for producers on sustainable practices, such as *Vinewise, the Washington guide to sustainable viticulture*.

US vintners say there is robust interest among American consumers. 'Overwhelmingly, people do care,' says Don Wallace, president of Sonoma's Dry Creek Vineyard. 'More than ever, I believe people are paying attention to what they put in their bodies.'

And even if consumers didn't care, Jim Bernau, president of Oregon's Willamette Valley Vineyards, says he would conduct his business sustainably. 'We are convinced that naturally grown wine grapes in healthy soil produce superior quality wine.' Later this year, the winery will be the first in the US to use sustainable corks from Portugal certified by the Rainforest Alliance.

PHOTOGRAPH: VALERY RIZZO/ALAMY