



Diam Press Digest 2017



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Jancis Robinson
AUGUST 18, 2017

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In the first decade of this century, many were predicting the demise of the cork industry, centred in Portugal, so popular were alternative wine bottle stoppers such as screwcaps and synthetic corks becoming.

The problem was the shockingly high incidence of TCA, the compound responsible for the most common sort of cork taint, in natural corks. Until recently, all corks were made by punching little cylinders out of strips of cork oak bark, and trying, not always successfully, to keep the process as hygienic as possible. Far too many wines have ended up [infected with TCA](#), either massively, in which case the wine smells undrinkably mouldy, or (worse for wine producers) mildly – in which case drinkers think it's the fault of the wine rather than the cork.

Financial Times (18.08.2017)

Top of the stoppers by Jancis Robinson

<https://www.ft.com/content/60ff7c02-8215-11e7-a4ce-15b2513cb3ff>

Back in the 1990s, Australian and New Zealand wine producers became so frustrated with the poor quality of corks they were sent that most of them switched wholesale to [screwcaps](#), which do the job of keeping out wine's enemy, oxygen, extremely efficiently — initially too efficiently. Now most producers have worked out their ideal OTR (oxygen transmission rate) and choose screwcaps they think will allow the right amount of oxygen through the lining of the cap to facilitate the wine's ageing process.

Screwcaps have become so popular for cheaper wines that they are now to be found on about a quarter of all the 18.5 billion bottles of wine needing a stopper each year.

Synthetic corks, made either of plastic or a sugarcane derivative, are about half as common as screwcaps and are used mainly for less expensive wines in countries such as the US and France, where screwcaps are not widely accepted.

Screwcaps are the cheapest stopper of all, which presumably adds to their popularity with wine bottlers, but I for one admire those producers of superior wines who use them, risking the scorn of the odd uneducated consumer in exchange for guaranteed freedom from TCA and 100 per cent consistency in how their wines develop.

Inconsistency of wine evolution has been the other big problem with natural corks, as each of them varies slightly in how much oxygen is available in each bottle. I have had bottles of the same wine from the same case that have been unrecognisably different.

At one time it looked as though the cork industry was under threat, but thanks to the rapid growth of bottled wine in both the US and China, the dominant natural cork supplier, Amorim of Portugal, reports that it is now selling two billion more corks a year than it did when screwcaps and synthetic corks started to have a real impact.

One reason why quality-conscious wine producers now look more kindly on corks is that — at long last — guaranteed TCA-free options are available.

One of the two major makers of new wine-bottle stoppers fighting for business at the top end of the market is Diam, owned by a French company that also owns coopers Seguin Moreau. Diam launched a new technical cork in 2005, and from a standing start now sells 1.25 billion a year, including the Mytik sparkling wine version. Diam corks don't look that great. Visually they bear a similarity to the cheap "agгло" corks made up of lots of little cork particles glued together, but in production method and efficacy they are quite different.

I will spare you the intricate detail that so inspires Diam's team of food technologists, but basically they buy cork from around the world and, at their plant just over the Spanish border from Portugal's cork country, treat it with supercritical carbon dioxide, the vital element that is somewhere between a gas and a liquid, to eliminate 100 per cent of the volatile molecules that might alter flavour. (There are now other, rival products that guarantee elimination of up to 80 per cent of possible TCA.)

The process was first used in the food and cosmetic industries — the perfumiers of Grasse, for example, are able to preserve delicate rose aromas because of it, and the patent as applied to cork is held jointly by Diam and, of all organisations, the French Atomic Energy Authority.

All Diam's corks are marked with the Diam name, so once you have pulled them you can tell your wine was neutrally sealed. I complained to Diam's head of R&D that their stoppers are so inelastic that they are hard to reinsert into a bottleneck (though not as hard as the early synthetic corks). "Exactly!" he beamed. "This shows how good they are at their job."

I'm noticing Diam corks more and more, and would love the producers who use them to advertise the fact. They guarantee both 100 per cent removal of TCA and 100 per cent consistency of wine evolution.

Within France, Burgundians have been keener Diam customers than the Bordelais, particularly for their white wines, presumably in the wake of their difficulties with premature oxidation. The Diam team is especially proud of Louis Jadot's decision to stopper all their Grand Cru white burgundies with Diam. The Diam corks come in several different versions, varying according to oxygen transmission rate (Burgundians choose minimum OTR) and labelled D1, D2, D5, D10 or D30 to indicate the number of years the cork is guaranteed to last.

In practice, wine producers tend to trial Diam for their less expensive wines before moving on to use it for the top of the range, which from a consumer's point of view is a little frustrating. Mytik has become so popular with Prosecco producers that total Diam sales to Italy are likely to overtake those to France this year.

But Portuguese cork producers Amorim and MA Silva now offer natural corks that they claim are TCA-free. Amorim launched theirs, NDtech, in 2015 and expect to sell 50 million of them this year. NDtech is the crème de la crème of their natural corks, subjected to such a rigorous selection process that the company can guarantee any remaining TCA level will be well below the perception threshold.

The production process takes so long that at present it can yield only three corks a minute. But those already using NDtech report that they are enjoying wine evolution that is as consistent as it would be under screwcap.

More on Diam



If like me you are a bit geeky in your love of wine, you might like to know a bit more about my visit to the producers of Diam technical corks described in *Corks fight back* published last Saturday (to which I have just added a coda).

The Diam operation is a subsidiary of the company now known as Oeneo, which is 63% owned by the family who control Rémy Martin cognac. Oeneo's other subsidiaries are coopers Seguin Moreau, oak-chip specialist Vivelys Boisé and, since 2015, the Portuguese natural cork producer Piedade.

Diam's processing plant for the cork the company buys is at San Vicente de Alcántara in Spain, where Diam still-wine corks are produced, just over the border from the cork forests of Portugal's Alentejo, whereas the spotless plant in Céret pictured here produces their Mytik sparkling-wine corks and corks for spirits. They are based in Céret for historical reasons because

Jancis Robinson Blog (21.08.2017)

More on Diam

<https://www.jancisrobinson.com/articles/more-on-diam>

the company was originally founded there by the Catalan Sabaté family.

About 50% of the cork bark they buy (all year round) originates in Portugal (mainly Alentejo), 30-40% in Spain and the rest comes from a mixture of Morocco, Sardinia and a tiny amount from France (Provence, Corsica and a little from around Céret in Roussillon but I was told that forests here are not particularly well maintained). So corks' number one customer is a very minor producer of them.

Apparently strong demand for cork bark has put pressure on prices, and cork producers clearly see themselves in a battle for supply - generally on the basis of long-term contracts, a bit like grape supply. Diam boast of being able to maintain a much lower inventory than their rivals Amorim as the Diamant process is continuous so they can produce and sell stoppers so soon after buying the raw materials.

In the year ended 2010, France bought 44% of the 750 million Diam stoppers sold, but this year that proportion has dropped to 25% of their 1.5 billion, with Italy (largely thanks to the Prosecco craze) at 24%, the US at 13%, Spain at 12% after just two years of serious buying of Diam ('they suddenly realised they had a TCA problem', according to Diam's European marketing director Pascal Popelier) and South America at 6%. Presumably sales in the screwcap-dominated antipodes are negligible.

Diam was launched in 2005 and has seen such sales growth (to 1.5 billion stoppers last year) that these plants have had regularly to be extended. 'We don't lose accounts', I was assured by Popelier, 'except for those who can't pay, or are forced to use cheaper products.'

Christophe Loisel, a food technologist for Danone before arriving at Diam, is in charge of R&D and could hardly be keener. He stressed that there was no need to bleach their stoppers and that they should ideally be left their natural beige colour, 'but it's very hard to change people's minds. They are used to top-quality natural cork being pale so they still want their Diam to be white'.

He spelt out their guarantees: cleanliness (no TCA and no other sort of sensorial impact on the wine - 'unlike Seguin Moreau, we don't want to affect the wine at all'); consistency 'because Diam corks are the result of an industrial process, all wines will age the same way'); and choice (the still-wine stoppers are offered in a range of oxygen transmission rates, OTRs, and potential longevity).

According to the Diam team, winemakers tend to be rather ignorant of the optimum OTR for their wines but they are increasingly doing useful trials.

'With natural corks', said Loisel, 'winemakers used lots of SO₂, but with Diam we can generally reduce SO₂ levels by about 15%.' He added, in a phrase that thrills me in the wake of that long period when the cork and wine industries seemed to be at loggerheads, 'the future of the cork industry is to work together with the wine industry.'

Popelier commented enthusiastically, 'For the first time in history, we're talking about corks in a positive way.'

But, despite Diam's assurance that they remove 100% of TCA, surely they have had customers claiming to have found TCA in their wines? They say they have occasionally found TCA on the bottom of one of their corks, in which case, they say, it got there via TCA infection of the wine from another source, or on the top, in which case it got there from the winery atmosphere, but

TCA has apparently never been found in the incriminatory middle of a Diam cork.

I was shown a big file detailing hundreds of wines now stoppered with Diam (a selection of them is shown above), among which are Domaine Leflaive and Louis Jadot grand cru whites, Bouchard Père et Fils and Chanson in Burgundy, where Diam tends to be reserved for the top wines; many a fine Chablis producer; Billecart-Salmon, Mumm and Moët & Chandon (who trialled it on small bottles of Mercier before adopting it for vintage Moët, and their Cuvée MCIII) in Champagne; and Chateau Montelena and Brewer Clifton in California – among many, many more.

So what about Bordeaux? Here especially producers have been cautious. Diam is quite widely used in Pessac-Léognan but for the moment Diam is mainly being trialled on second wines rather than on grands vins. I suppose this is fine if producers are lashing out on other guaranteed TCA-free stoppers such as NDTech from rivals Amorim for their top wines, but it seems odd to be persisting with riskier, cheaper natural corks for wines as expensive as classed-growth bordeaux.

In Diam's client file are retail prices of all relevant Diam-stoppered wines. As a consumer you may be interested to know which are the least expensive wines stoppered with Diam, a sign of producers committed to fully satisfying their customers, perhaps:

- Russia – Lefkadia and Fanagoria
- Greece – Gaia S and Alpha Estate
- Turkey – Turasan Seneler
- Chile – Koyle Costa, Perez Cruz, Undurraga Terroir Hunter and several Concha y Toro brands
- Argentina – Clos de los Siete, Colovati, Norton, Sin Fin and Zuccardi
- Spain – Bonai, LAN, CVNE Viña Real Crianza, Cepa 21, Artadi El Seque, Venus La Universale Dido, Menadé, Peña y Gato, Cosme Palacio and Los Balancines
- Italy – Antinori
- Alsace – Boeckel and Josmeyer
- Languedoc-Roussillon – Ch Puech Haut, Ch de Lastours, Mas de Martin and Dom St-Sébastien
- Provence – Dom Ott, Ch l'Aumérae, Ch de St-Roseline and Ch de Brégançon
- Rhône – Roger Perrin, Dom Nalys, Dom Cayron and Dom Farjon
- Bordeaux – a host of second wines and white wines

BRICE DE LA MORANDIÈRE: THE OUTSIDE INSIDER

THE WORLD OF
FINE WINE

Having quit a successful career in manufacturing to take up the reins at the family business, the new head of **Domaine Leflaive** tells **Margaret Rand** how he plans to build on the work of his late, great cousin, Anne-Claude

Iwonder if Brice de La Morandière ever had to explain himself so much in the past? When you manufacture things, nobody asks you to explain why you and only you should be the person to manufacture that particular thing. But move to running a vineyard, and the question is implicit everywhere: Why you?

The question, indeed, is explicit: Why should a successful manufacturer of hydraulic mechanisms want to change his life and career to take over the running of biodynamic leader **Domaine Leflaive**? Especially when one of the first things he does is to switch from natural cork to Diam for the whole of the 2014 vintage, from Bourgogne Blanc to Montrachet.

But more of that later. Instead, imagine if you will a family conclave. Thirty-five shareholders have gathered in Puligny. The family has just buried Anne-Claude Leflaive; there is no succession plan. Two weeks later, a metaphorical puff of white smoke rises from a metaphorical chimney: *Habemus papam!*

La Morandière makes a quick zipping movement across his mouth when I ask about the decision-making process; suffice it to say that he didn't expect to emerge as the new MD of **Domaine Leflaive**. The family had known for many years that Anne-Claude was ill, but there was no discussion of what would come next. The family didn't think it elegant to raise the subject unless Anne-Claude raised it first—and she didn't. Time passed and, as can happen, everybody got used to the idea of her being ill. "I called her ten days before she died. She was in hospital with pleurisy, which I'd had when I was 15, and it's horribly painful. I called to say how sorry I was, not knowing it would be my last message to her."

Succeeding her at **Domaine Leflaive**, however, wasn't even something he discussed with his wife. There were 35 shareholders and thus 35 different ideas of what to do, he says; but when I say it must have been tricky, with multinationals circling the Côte d'Or waiting to pick off domains whose shareholders don't agree, he says that was never a problem. There was apparently never any consideration of any future

other than that of continuing as a family estate. How to do that produced umpteen ideas, and it ended with one, which was La Morandière. But a takeover was apparently never even talked of: a consensus, then. "If France can have a consensus, it's a very big success. That's partly why I accepted the job; it's important to preserve [family ownership], and I can do it."

It seems that all the shareholders feel a great attachment to the domaine—and that, all Burgundy-watchers agree, is crucial to maintaining family ownership. "All the shareholders have childhood memories of **Domaine Leflaive**," says La Morandière, even if he is the only one to have bought a house in Puligny with his own money—something he did about ten years ago, well before Anne-Claude's death. Because he, too, felt that pull—only in his case it reached across continents and was already in the process of drawing him back to Europe. That was why he took the job; he was more available than might otherwise have been the case, and he was willing to be pulled. "I had to decide if I would change my life. It wasn't a split-second decision, but I thought I could help, and learn what I needed to learn, and bring some of the knowledge I had from running an international business, some of the governance I was used to, which is a bit more strict than in a family business."

What he'd been doing was running manufacturing companies. He'd been CEO of Sperian Protection, which makes protective clothing, and more recently CEO of Hyva Group, which makes hydraulic mechanisms. He was born in Paris and studied at Sciences Po, where he did a doctorate in strategic management. The gap between this and the vineyards in Puligny is where the explaining comes in. Yes, he can find parallels between manufacturing and wine growing—"A good vigneron doubts a lot, and reappraises things; a good manufacturer doubts a lot, and reappraises things," or "In manufacturing, you transform something into something else, and viticulture is also a transformation process"—but what he really sets about explaining are his roots in the family; his roots in Puligny, and why he's not an outsider.

The world of Fine Wine (17.03.2017)

Brice de la Morandière : the outside insider



Returning to roots

He is Anne-Claude's cousin, and a great-grandson of the domaine's founder, Joseph Leflaive. Anne-Claude was Joseph's granddaughter and thus a generation removed, though in fact she was only nine years older than La Morandière. "My office now was my great-grandfather's office, Vincent's office, Anne-Claude's office. I remember the table from when I was a child and just at the level of the table. It's a change but not such a change." He spent his childhood strolling and biking through the vines with Vincent, with Anne-Claude, and for the children's holidays, too, they often went to Puligny. "It was part of my life always. It's a different degree [now], not a reset in my mind."

The reset in his mind, if there was one, perhaps came earlier. He was living in the US for a while, "and both kids would speak English in the back of the car, and we thought it was very cute and nice, until one day, we thought, Do we want to go on living in the US? No, we're Europeans. We want to go back to our roots." That was when they bought the house in Puligny—where, incidentally, he has two gardens, since he is a mad-keen gardener. "A safe haven" is how he describes it. Then, more recently, they were in Hong Kong, having lived in China, and his children (who are now 24, 19, and 15) were in the UK. "I had to decide whether to continue in Hong Kong and then finish [my professional life] in China or go back to Europe. In the same way we had decided we didn't want to be American, we decided Europe was still the right place to be." And in the middle of that process of deciding to come back, Anne-Claude died.

The first thing he did, after the white smoke had dissipated, was to go back to university. He had lived with the Leflaive family for half a century, but that doesn't teach you how to make wine. He went to Dijon to study enology, enjoyed it hugely, found it more demanding than he'd expected, and spent a lot of time talking to people at the domaine. "They teach you a lot. I tend to have collective decision-making and bring the team together to discuss issues. On very technical matters, I am an

outsider asking questions, helping through the pertinence of my questions rather than giving answers."

The third element in his advanced wine education has been talking to other vignerons, especially those he knew before; he names Aubert de Villaine, Etienne de Montille, Dominique Lafon, Jean-Charles de la Morinière, Guillaume d'Angerville, Pierre-Henry Gagey, Bernard Herve, Sylvain Pitiot. They're people he can bounce ideas off. "When you come from outside, there's a surprise effect: Oh, that's how you do things!" Pertinent questions from an outsider are good for everyone, and "for me, you cannot imagine how much help it's been. It's the confidence that you will be helped if you really need it." As a result of these three strands of study, he reckons he's packed ten years of education into a year and a half. "If you dedicate all your waking and brain time to it, you can do giant steps."

Diametrically opposed?

It was during this time of talking and tasting that the question of corks came up—or to be precise, the question of premature oxidation. "I was tasting one day with the team, and we took a bottle that was magnificent. The next bottle was not at all magnificent. But all our bottles are numbered, and these two were just one number apart." Suspicion fell on the cork.

La Morandière got on a plane and spent four days visiting cork manufacturers to see if anything could be improved in the corks they were buying. The good news was that they'd always bought the best corks. The bad news was that nothing could be improved. So, the next visit was to Diam.

In 2011, Anne-Claude had done tests of different closures, including Diam, so organizing a blind tasting was easy. The tasters were from the domaine and from outside, and they opened eight bottles from each of two appellations, asking simply, Which do you prefer? La Morandière says, "Number one was Diam, number two was Diam, number three was Diam, number four was Diam. In both appellations. It shook us a lot." There was more bottle variation among the non-Diam bottles,

and while the Diam bottles were not all the same, they were all fresher and all perfect, in terms of oxidation. Sulfur dioxide levels were more regular in the Diam bottles, too.

Changing to Diam was not an instant decision. "It was when having friends helped." He went to see people who had tried Diam and asked for the pros and cons, and in the end he decided to bottle the whole 2014 vintage under Diam. (For those who follow the closures debate less than avidly, Diam is a "technological cork"; cork bark is ground up, the grains are cleaned to remove the risk of TCA and held together with a binding agent.) Domaine Leflaive is not the first in Burgundy to switch to Diam: Comtes Lafon, Bouchard Père & Fils, William Fèvre, Louis Jadot, and others already use it. Even so, La Morandière is at pains to explain he's not introducing a manufactured product because he's a manufacturer. Nor is it because he's picked on cork as the culprit in the premo problem.

Premature oxidation is a Burgundy-wide problem, we know; and not just in Burgundy. La Morandière set in train an examination of every process at the domaine, from grapes to bottle. Were the vines getting enough nitrogen? Were the pumps right? Were the pipes the right size? Pretty well every aspect of viticulture and winemaking has been pinpointed by somebody at some time as a factor in premo, and while everybody has an opinion and some say they know, they don't necessarily agree with each other. A lot of small improvements were made, including a new press and new vats. "We scrutinized everything—not to change the wines but to improve where we could, and where there is a doubt, to remove that doubt." Now they're appraising what they've done and whether it's had any effect. Some things haven't changed and won't: a long fermentation, a year in barrel, a winter in tank. But until it is known for certain what causes premo (if indeed what we see is oxidation and not something else), La Morandière is doing what he can to remove one variable, one doubt. Bottle variation is not the cause of premo, but if it allows it to flourish...

In any case, bottle variation is clearly hugely annoying to consumers and is an issue the cork companies cannot, it seems, address, though maybe they will in the future. "In the first seven to ten years, Diam bottles are better and more regular," says La Morandière. It's true that we don't know what they will be like in 25 years, but "there's a part of uncertainty in any decision. It's the right decision for longevity and pleasure. I want a long life and an enjoyable moment at the end"—he's speaking, I think, of wine rather than of himself—"and if you don't think about premo, it's just a way of shutting your eyes and hoping you won't be caught with it. No one knows [what causes it], and those who claim to know, good for them. I'm not as good as they are." His role, he says, is to make sure he takes no risks.

There are some tasters who regard Diam itself as a risk—or worse. They say they can taste Diam in the wine; what does he say to them? "I've heard these claims but not as often as I expected, generally from people fiercely against it. I also asked for the scientific reports on Diam to try to understand if Diam could give a taste to the wine. There doesn't seem to be much scientific evidence here, but I don't claim to be a scientific expert. In the blind tasting that I participated in, opinions (and recognition scores) were not conclusive. The wine can be more reduced when opened young and will need some oxygen before it gives its full value. My advice is to double-decant the wines anyway." He's rather a fan of aeration, as an aside, and remembers



family dinners when he was a child. The children would be down first the next morning and would do some impromptu tasting—and the wine, he says, was beautiful the day after it was opened.

How does using a technological cork fit with the domaine's biodynamism? He doesn't see a conflict. "The hipster dichotomy is to see nature as good and manufactured products as bad, which is simplistic." He points to the waste he saw in making natural corks, though the cork companies would presumably point to other cork products that mop that up. Of course, the trump card is that Anne-Claude was prepared to test Diam.

It's a decision he believes is "100 percent in the spirit of Domaine Leflaive." But it is also the product of his position not as an outsider but what he calls an "outside-in." "I come from a different angle, and if you look from a different angle, you can see in 3D. [...] I come with a way of asking questions." It's the good thing about learning something when you're older, he says; you feel more confident that even your basic questions are good questions. "If I were 23 or 29 or 32, I'd be more shy about what I didn't know and therefore wouldn't have the benefit of these discussions."

The picture you might have so far is of somebody entirely rational, calm, quietly witty—level-headed, as one source describes him. But there's a touch of romance to his view of wine as well. "There's a kind of mystery in the transformation of these grapes and their evolution over time; there's a mystery, a charm. It's more than the ingredients you know are there... The closer I am to the ingredients, the more I'm moved by the dream part of it. And the more I know, the less I can explain the dream part." It's good to leave some things unexplained. ■



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How Technology Makes Life—and Wine—More Satisfying



Huffingtonpost
(17.10.2017)

How Technology Makes Life—and Wine—More Satisfying

https://www.huffingtonpost.com/entry/how-technology-makes-lifeand-winemore-satisfying_us_59e65648e4b0e60c4aa365cc

It's easy to romanticize the past and wish one lived during a "golden age." But was the past really that good? Fictional character Gil Pender gains insights on this question in Woody Allen's film, "Midnight in Paris." Pender takes a trip back in time where he has the revelation that not everything was golden: "These people don't have antibiotics," he lamented.

Indeed, technological developments have vastly improved human life, yet we too often take it for granted, never understanding what life was like beforehand.

Consider the impact of innovation on wine. During the 1800s, wine quality in France was "so bad that peasants claimed it took three men to get it down: the one who drank, the one who held him, and the one who made him drink," notes Dr. Vino blogger Tyler Colman in his book Wine Politics: How Governments, Environmentalists, Mobsters, and Critics Influence the Wines We Drink.

Yet today, even consumers with a tight budget can afford a tasty bottle. Wine has improved greatly, notes Colman, thanks in good measure to the development of packaging technology: simply "bottles and corks."

Cork proved to be a wonderful closure since it prevents oxidation that would spoil the wine, while still allowing a small amount of oxygen to migrate into the bottle, where it aids gradual wine development. And the cork supply is sustainable because Cork Oak trees live about 150 years and can be harvested about once every decade. But cork possesses a major drawback: It can carry and transmit bacteria known as 2,4,6-trichloroanisole (TCA) that eventually spoils wine with a moldy aroma and flavor.

The cork industry is trying to address the issue by applying technologies that detect and eliminate TCA with some success, yet TCA remains a problem.



The closure industry has responded with many other options, and each has its merits and challenges. The introduction of screw caps has met much resistance because people don't like how they look, but screw caps are an excellent closure for fresh and fruity white wines and rosé. Glass closures offer elegance, but they are expensive. Both glass closures and screw caps are not ideal for all wines as they don't allow air exchange, which is desired for some wines to age well.

There are also synthetic corks, which offer affordability and a cork-like appearance. Yet some critics say they don't expand and contract at the same rate as the glass bottle, which means wine can leak out, or too much air can get into the bottle making these closures less suitable for age-worthy wine.

Enter DIAM. This southern French company, which also has a facility in Spain that I was invited to visit along with other writers and researchers in 2014, has developed a "technological cork"—a more advanced form of cork that DIAM guarantees completely eliminates TCA. Rather than simply cutting the bark off of trees and punching out the closures from the cork, DIAM grinds up the cork, cleans out all TCA, and presses it back together with an adhesive.

The company also incorporates micro-spheres that precisely control how much air goes in and out of the bottle, which enables DIAM to make several different grades of corks. Some allow more oxygen and some less, so winemakers can select the perfect cork for each type of wine they sell. DIAM guarantees that each cork performs in a consistent fashion, which isn't possible with raw cork because every cork is different, each letting in different levels of oxygen.



Some wine lovers have embraced this innovation, including Jancis Robinson—one of the world’s most renowned wine experts. [Robinson says](#) that DIAM corks do such a great job that wineries should advertise when they use them.

Yet DIAM’s detractors express [unwarranted fears](#) about technological cork, and some of DIAM’s competitors have had no problem capitalizing on those worries.

In 2014 the synthetic cork producers reached out to the U.S. Food and Drug Administration (FDA) asking whether DIAM and other so-called agglomerated corks should be regulated under the agency’s jurisdiction. Curiously, they were aided by the editor of [Wine Industry Insight](#), who grossly mischaracterized the issue with this explosive and wrong assertion: “Agglomerated cork manufacturers and importers are facing scrutiny from two major federal agencies over health concerns about the plastic used to bind bits of cork glued together. The concern is that chemicals in the binding plastic can leach into wine.”

In reality, there was no such federal scrutiny. The FDA simply [replied](#) to the synthetic cork producers that there was no need to regulate because there wasn’t any evidence of migration. More recently, the agency provided official [notice](#) that DIAM corks are among the products it lists in the agency’s [database](#) of “food contact substances that have been demonstrated to be safe for their intended use.”

Fine winemaker [David Ramey](#) dispelled criticisms while detailing the value of DIAM corks in an interview with wine critic [Stephen Tanzer](#) in a [video](#) on [Vinous.com](#). He has been conducting tests for nearly a decade on his own Chardonnay wines, comparing wines closed with DIAM corks to those closed with “raw” cork. He found that the DIAM corks vastly outperform raw corks when it comes to ensuring consistent quality and development of his fine wines.

Ramey says DIAM closures also do not add any bitter aftertaste in the wines as some critics [allege](#). His finding is not surprising because, as FDA [officials have noted](#), there’s no detectable migration. So there’s essentially no exposure, no corresponding risks, and no possible bad chemical flavors in the wine.

The evolution of wine closures shows that progress often requires change, even if it means letting go of the old ways of doing things. Woody Allen’s character Gil Pender eventually concludes the same thing, first pondering: “Maybe the present is a little unsatisfying because life is a little unsatisfying.” But he then chooses to move forward, making the changes necessary to let go of the past and embrace the present.



Domaine Leflaive's switch to DIAM



Jamie Good Blog
(31.10.2016)

Domaine Leflaive's switch to DIAM

<http://www.wineanorak.com/wineblog/wine-science/domaine-leflaives-switch-to-diam>

Celebrated Burgundy producer [Domaine Leflaive](#) have switched away from natural cork to DIAM for all their wines, beginning with the soon-to-be released 2014 vintage.

I was alerted to this news by a tweet from Neal Martin, and I spoke on the phone this morning with Adam Brett-Smith of exclusive UK agents Corney & Barrow, who confirmed that from Bourgogne Blanc to Montrachet, proprietor Brice de La Morandiere has decided to bottle everything with this alternative closure. Brice, Anne-Claude Leflaive's nephew and great grand son of Joseph Leflaive, has been fine-tuning how things are done at the domaine, and this is one of the changes.

This is the highest profile estate to move away from natural cork, and as such, it's big news. Others in Burgundy have already experimented or shifted altogether, and it's likely that more producers of white Burgundy will now also make the switch. Some years ago Ponsot [famously adopted the rather unusual ArdeaSeal](#), an exotic plastic cork. Benjamin Leroux has used screwcaps for all his whites from 2014, except for those wines destined for markets where he feels they won't accept alternatives to cork. From 2013, Dominique Lafon has also been using DIAM.

The big problem facing white Burgundy over recent years has been [premature oxidation](#) (known as PremOx). After a few years of cellaring, within the same case some of the bottles might be drinking perfectly, while others will be oxidised. There's been a lot of discussion about its cause(s), but it's clear that one of the contributors is the cork. While the wines seem to have become more fragile, it is the variation in cork that shows this fragility up. A more consistent closure with very low oxygen transmission might make PremOx rarer, even if it can't deal with the underlying causes (which still aren't completely clear).

the PremOx problem came to light from the 1996 vintage onwards. After being relatively unscathed with this issue, [Leflaive reportedly suffered very badly with PremOx from the 2006 vintage onwards](#). Perhaps this is one reason they were keen to shift from natural cork.

[DIAM](#), which is a technological cork made from grinding up bits of natural cork, cleaning them with supercritical carbon dioxide, and then glueing them back together with synthetic microspheres, is seen as a possible solution. It is consistent, and allows just a little oxygen transmission, like a good cork might. I've always had good experiences with DIAM-sealed bottles, but some winemakers claim they can spot a wine sealed this way because it dampens the fruit a bit. Andrew Jefford discusses this in an [article on DIAM here](#).

The other option that may well take off for white Burgundy is screwcap, with a tin/saran liner. There are concerns that these screwcaps can cause or exaggerate reductive tendencies in wine, but some of my favourite new world Chardonnay producers, including Kumeu River, Neudorf and Norman Hardie all use screwcaps and the wines are thrilling. It will be interesting to see whether or not Domaine Leflaive's shift causes a mass move away from natural cork to alternatives such as DIAM and screwcap.

Fine Wine Producers Debate To Cork Or Not To Cork



Jeannie Cho Lee, CONTRIBUTOR

FULL BIO 

Opinions expressed by Forbes Contributors are their own.

During my recent trip to Burgundy in early December 2016, I found several top producers switching from cork closures to **Diam**. I knew that large negociants like Louis Jadot and Bouchard Père et Fils were happy using this closure for their white wines, but now small, high-quality domains are switching over. Étienne de Montille of Domaine de Montille, who will bottle all his wines under **Diam**, says, “It made sense to me to reject a closure that can potentially spoil my wine. I am happy with **Diam** and have been using it for my white wines but I will now bottle all my reds with **Diam** too.” Domaine Leflaive, one of the top white Burgundy producers, will also switch to **Diam**.

For many years, the wine industry accepted a high fault rate of corked wines that were infected with trichloroanisole (TCA), a compound that imparts musty, off-flavors in wine. It took a wave of New World producers frustrated with the situation that shifted a cork-focused world to explore other alternatives. For decades, European producers accepted the cork taint rate, which during the 1990s ranged between 5% to 10%. The cork industry remained firm that the rate was only 2% to 3%. Even at this conservative rate, it was deemed unacceptable to a growing number of New World producers.

Forbes (09.12.2016)

Fine Wine Producers Debate To Cork Or Not To Cork

<https://www.forbes.com/sites/jeanniecholee/2016/12/09/fine-wine-producers-debate-to-cork-or-not-to-cork/#e179a2042600>



(Photo credit: Shutterstock)

In 2001, twenty-eight New Zealand wineries got together to form the Screwcap Wine Seal Initiative. They vowed to bottle all their fresh zingy wines, many of them Sauvignon Blancs, under screwcap. Just five years later, the vast majority of New Zealand wines were sold under screwcap, and now it is hard to find one that isn't bottled under screwcap! In Australia, a movement led by Jeffrey Grosset of Clare Valley, South Australia, had a similar effect, first with Clare Valley's intensely limey Rieslings, then quickly expanding to other regions and styles. The screwcap movement didn't catch on as much in the United States, Chile and other New World wine regions, but synthetic closures are expanding quickly.

One of the main reason that screwcaps were not embraced by the more conservative European producers and high-end wineries is because of consumer perception that high quality wines should have a cork closure. But **Diam** is opening the way because of how it looks – it is a processed cork and if you look closely, you can see the cork pieces that make up the closure that on first take looks like a natural cork. The cork pieces are cleaned and impurities like TCA are removed; then it is mixed with acrylate microparticles that expand to fill in the air spaces between the cork fragments.

Eliminating cork closures doesn't completely eliminate a potential TCA infection in wine. Cork closures account for about 75-80% of the problem, but TCA forms through the interaction of phenols, chlorine and mold and can be found in the winery – in barrels, wooden racks, beams or cardboard cartons. Vigilant hygiene, avoidance of chlorine-based products and care is necessary to completely eliminate the chances of TCA-infected wines.

Everyone's sensitivity to TCA varies and the threshold can be as low as 1 to 2 nanograms per litre. Some people can smell even low amounts of TCA while many are happy to drink a lightly infected wine. Laurent Ponsot of Domaine Ponsot is highly sensitive to TCA and was one of the early rejecters in Burgundy of cork. All of his wines including many Grand Crus that routinely sell for over US\$300 per bottle are all under the synthetic Guala closure starting with the 2008 vintage.

Ponsot and de Montille are still in the minority in their decision to reject cork. Most still prefer the tried and tested method of having a natural, organic closure with its permeability, ability to age wine slowly over time, resistance to temperature fluctuation and vibration and biodegradability. The good news for consumers is that the cork industry has been shaken from its slumber and improving the quality and reliability of corks. With its market share down from 95% in the 1990s to just 70% (according to Decanter's 2015 wine closure market share chart), the cork industry is working hard to find solutions to eliminate or at least minimize cork taint in wines.

Jeannie Cho Lee MW

David Ramey on Corks and the Ageability of Chardonnay, July 2017



After tasting Chardonnays back to 1998, Stephen Tanzer discusses with winemaker David Ramey the attributes that affect the ageability of these wines. © 2017 Vinous Media LLC



<http://vinous.com/multimedia/david-ramey-on-corks-and-the-ageability-of-chardonnay-jul-2017>

Vinous Blog (07.2017)

David Ramey on Corks and the Ageability of Chardonnay

Cork v3.0 – Cork Fights Back

POSTED ON 16/05/2017



Quentin Sadler's Wine Page
sharing thoughts on wine, food and travel



Cork oaks with their trunks stripped – photo courtesy of Diam.

The cork or screw cap debate is getting interesting again – *click here for an article that I wrote about it quite a few years ago*. For many years I, along with many in the British wine trade, have long championed the use of screw cap over cork.

My main reason for doing so is that for a long time we had far too high a proportion of bottles that were corked. This happens when a cork is infected by a compound called trichloroanisole, TCA for short, and that gets passed on to the wine in the bottle, killing the fruit in the wine and making it smell and taste musty like mouldy cardboard.

Quentin Salder's Blog (16.05.2017)

Cork Fights Back

<https://quentinsadler.wordpress.com/?s=diam&submit=Search>

A compelling second reason to favour screw caps is that with corks there is a significant amount of bottle variation as some give a better seal than others, so little bit of oxidation can occur making some bottles seem less vibrant and more muted than others.

Screwcaps do not get rid of all of this, it is possible to get TCA into a wine by another route, so I have had 4 'corked' bottles sealed with screw caps. That is 4 in over 20 years though. By comparison my record for corked wine that was sealed with corks was 6 bottles from a single case on a single day!

I also like the *glass closures*, they look very classy and I think if I made wine that is what I would choose. The rather more funky *Zork* closure is rather good too, especially for sparkling wine. It makes a noise like a cork popping and you can reseal it.

However, many people are more traditional than me and like to cling to things because they are used to them or sometimes because they think they are best and so cork is still used to seal the majority of wine bottles.

In the 10 years from 2006 to 2016 the use of cork has dropped from 78% of closures to 61%, so it is still the dominant material. In that time screw caps have grown from just 5% to 26%. If those figures seem low to you, outside of the UK, Australia, New Zealand and Switzerland, cork is considered superior and screwcaps are widely viewed as suitable only for the cheapest wines.



The tops of various types of cork.

Well cork seems to be fighting back and the charge is lead by a new form of cork that manages to get round the traditional problems that cork has.



Most of you will be able to picture a traditional cork, that is a cylinder of cork stamped out a single piece of cork oak bark. Being a single piece if it is contaminated by TCA, this will infect the wine.



Agglomerate cork was an attempt to get around that by making the cork out of lots of tiny pieces of cork glued together. However these are usually considered less suitable for ageing wine as there is almost no oxygen ingress, or trickle of oxygen through the cork, to age the wine. In addition they are less pliable than natural cork, so again less suitable for long term ageing.



Synthetic corks have certainly proved to be effective for early drinking wines. The risk of TCA infection is almost completely removed, unless TCA gets into the wine via wood or filter pads or by another route – this can also happen with screw cap wines, but it is rare. However many of them can harden over a relatively short time, making them less effective and allowing air into the wine. Added to which they are really difficult to get off the corkscrew once you have removed them from the bottle. In my opinion these are really only suitable for early drinking wines, but a screw cap would be a better seal and preserve the fresh character of the wine and the fruit much better.

Recently I was invited to France to tour a cork factory that belongs to a company that is changing everything – that company is Diam.



Basically Diam manufacture a type of agglomerate cork, but a very high tech and high quality one. I cannot pretend to understand the science, but basically they harvest high quality cork, season it outside for up to 12 months, just as natural cork would be. They then wash it and crush it into granules which are then filtered to remove foreign bodies and the woody parts. This leaves them with pure suberin, which unlike lesser cork is inert. This substance undergoes a similar process to the one that removes caffeine from coffee, which removes all impurities from the cork granules, they actually store the TCA that they remove as it can be used in the manufacture of some skin creams – so the next time auntie smells of cork taint, perhaps she hasn't been drinking! The gaps between the cork granules are filled with microspheres which increases the elasticity of the finished cork. They are then bound together with a food grade binding agent before being moulded, machined and finished to the correct size and finish.

They tell me that with their process there is no risk of TCA, the cork is pliable enough to ensure there is minimal risk of premature oxidation – which makes Diam corks particularly popular in Burgundy – and stops bottle variation as they perform consistently.

If you look at the Diam cork above, you will see in the bottom right it says Diam 3, they actually make Diam 2, Diam 3, Diam 5, Diam 10 and Diam 30 for still wines, the number tells you how long they guarantee the cork for. They also make sparkling wine corks and spirit stopper corks.



An unused Diam 5.

It was a fascinating visit. The factory floor was almost entirely unmanned, with robotic machines doing all the work. The whole place had a rather wonderful toasty, malty, toffee, caramel sort of smell which is what the corks smell of when still warm.



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wine@quentinsadler.com

Our little group on the factory floor and yes that is Charles Metcalfe in the centre. I reached the conclusion that the protective clothing was a French joke as none of the management wore it!

Diam corks are tested for their elasticity as they want them to be as pliable as possible. This elastic property ensures that they give a perfect seal and apparently do not need to be kept damp – so if you know it has a Diam cork you do not need to lie it down, or so Diam say.

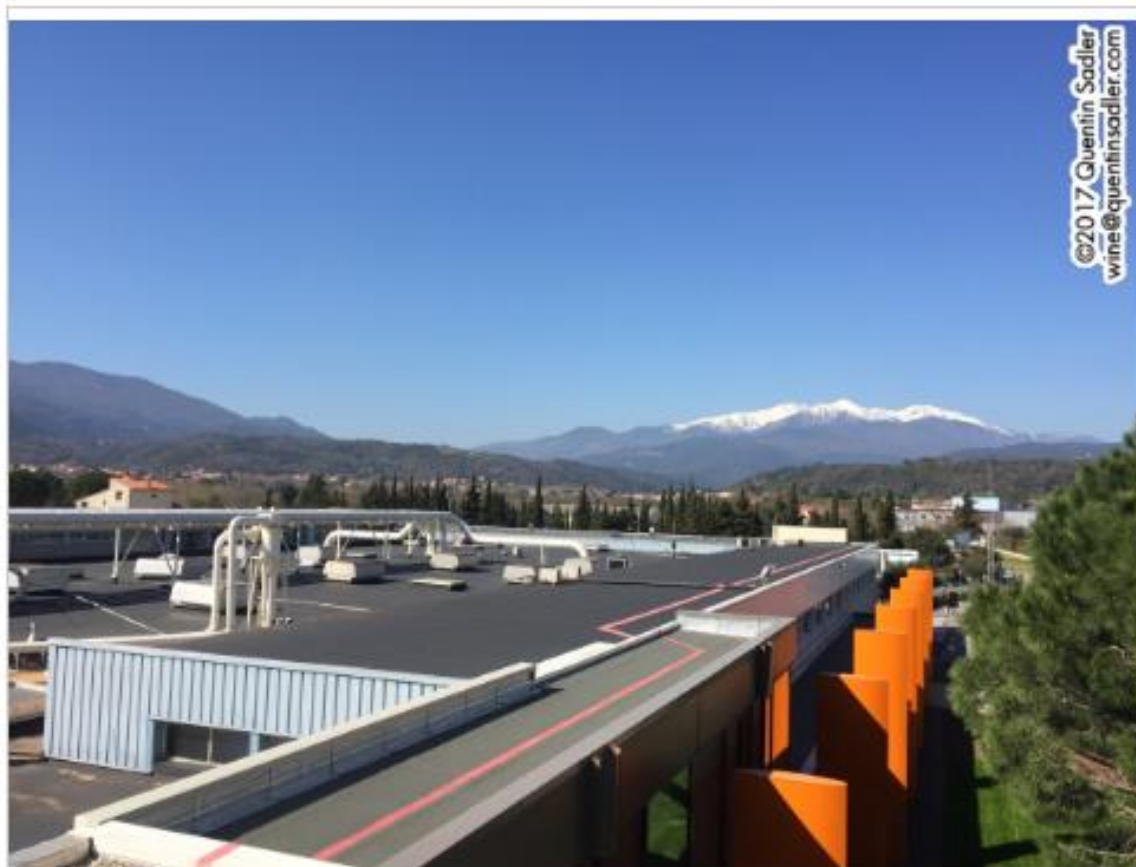


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Diam Origine.

Diam have been around since 2005 and their share of the market keeps rising, their share of the cork market has risen from a very healthy 4% in 2006 to 10% 10 years later. And by the way that 10% represents 1.3 billion corks a year!

Now they have launched an organic version called Diam Origine. Initially this will just be in a Diam 10 and a Diam 30 version, but more will follow. The organic corks uses beeswax emulsion and a binding agent made from plants and I expect that we will begin to see them used on more and more organic and biodynamic wines.



The Pic du Canigou from Diam's factory near Collioure in the Roussillon region of France.

It was a very different visit from my normal wine trips, but it was very interesting and informative and the weather was gorgeous, the only lovely weather I have had this year so far. I was very impressed by what I saw and heard and feel much more confident about cork now than I have for a long time, as long as it is Diam.

It's just a pity that you cannot tell whether the wine is sealed with a Diam cork before you buy it. Perhaps they ought to find a way of letting us know before we part with our money?

Bringing Closure to Cork Taint

Mar
24

French company Diam Bouchage has introduced a new closure designed for long-term cellaring. By [Stephen Quinn](#).

Imagine the disappointment when after cellaring a bottle for decades we have to tip the wine down the sink because it is "corked". A little more than a decade ago perhaps one or two bottles in a dozen were ruined because of a chemical called trichloroanisole (TCA) in tainted corks.

TCA deadens the flavours of wine and produces aromas (at best) like mouldy cardboard or at worst like a wet dog drying by the fire. Faults in wines are one of the reasons restaurants have justified massive mark-ups. This remains bogus reasoning because restaurants can always return faulty wine to the maker for a refund.

One reaction to TCA was the introduction of screw-cap closures. In the decade to the end of last year, the number of corks used in the 18,000 million bottles of still wine and 2,500 million of sparkling wine produced each year fell from 78 per cent to 61 per cent. The use of screw-caps surged from 5 per cent to 26 per cent.

But some wine experts believe screw-caps limit a wine's ability to age gracefully and some sommeliers maintain they lack aesthetic appeal. One cannot ignore the romance and ritual of a cork being pulled.

In 2005 a French company, Diam Bouchage, introduced a closure that aimed to return to the natural feel of cork. These corks are known as "Diam". Dr Christophe Loisel, Diam's director of research and development, said the name was an abbreviation of the word for diamond, implying precision. "We aim to be pure like a diamond."

Diam Bouchage is the world leader in closure technology and the word Diam has come into our lexicon to mean a cork-like closure. The company produces 1,500 million closures a year. Diam is the name of the closure for still wine, Mytik for sparkling wine and Altop for spirits such as cognac.

The company is based in the Pyrenees region of France near the border with Spain and has built its reputation on the Diamant process that removes the chemicals that taint the taste of wine.

This week the company released a new closure known as Origine that focuses on using only sustainable ingredients. The process which purifies the cork also uses minimal electricity. The new closure is made of tiny cork granules, beeswax and vegetable oils. It satisfies the needs of winemakers who want a closure suitable for long-term cellaring. The new method is to be used with Diam10 and Diam30, the quality closures designed to be used with bottles to be cellared for 10 or 30 years.

Dr Loisel said the new technology was the result of more than a decade of research aimed at improving "permeability". This refers to the way that a closure allows for the minute flow of oxygen through a cork, necessary for allowing premium wines to mature slowly, meaning long life in the cellar.



Stephen Quinn

Wine Times Hong Kong (24.03.2017)

Bringing Closure to Cork Taint

<http://winetimeshk.com/bringing-closure-to-cork-taint/>

Traditional corks come from the bark of cork trees grown in western Mediterranean countries such as Portugal and Spain. Bark from each tree is harvested about once a decade, so it takes a lot of trees to produce closures for the 20,500 million bottles of still and sparkling wine the world consumes each year. (Global wine consumption is about 35,000 million bottles; the balance is bulk wine in bags and boxes.)

Natural cork production wastes a high proportion of the cork bark because corks are punched out of a piece of bark. More than half of each piece of bark is discarded, whereas Diam corks use all of the bark. About 95 per cent of a Diam closure is made of tiny cork granules. The rest is beeswax and natural binders like castor oil.

Bruno de Saizieu, vice president for sales and marketing, noted a major return to closures instead of screw-caps. Use of Diam rose from 4 per cent to 10 per cent in the past decade. "The trend is for prestige wines to use Diam."

The company charges 60 to 500 Euros for 1,000 still corks, depending on the quality required. The Bordeaux and Burgundy regions spend a lot of money on quality closures for long-term cellaring, de Saizieu said. Sparkling wine closures cost between 100 and 200 Euros for 1,000. They tend to be cheaper because bottles are opened more quickly compared with closures used for long-term cellaring. About 40 million Diam30 closures are sold each year to prestige champagne houses.

Diam Bouchage, whose motto is "guardian of aromas," has built a new factory at Ceret in south-west France and this week invited wine journalists from around Europe to attend a launch of the new closure. The factory cost 30 million Euro and was part of an 80 million Euro investment in research and development last year.

CEO Dominique Tournieux said the company remained environmentally aware. "Our objective is to source all our raw materials locally. Wine and cork are closely connected. Traditional cork has had problems with taint in the past." Human creativity combined with natural products remained the answer, he said.

The company harvests 20,000 hectares of cork trees a year, which is small compared with the amount of cork harvested globally – about 2.2 million hectares. Portugal produces about half of the world's natural cork though it only has about a third of all the cork trees. Spain has about 27 per cent of the world's trees.

The company plans to build a factory in Portugal next year. The Ceret factory employs laser printers to enable winemakers to apply unique messages on premium closures.

Beeswax is a key ingredient of the new Diam closure, though the amount of wax used in each cork is tiny. To demonstrate its ecological beliefs, Diam Bouchage is supporting a French association called A Roof of Bees by sponsoring beehives in wine regions around the country. Diam Bouchage only needs about three tonnes of beeswax a year compared with the 100,000 tonnes the world's honey industry uses.

In France, one of the Rhône's most dynamic producers, Jean-Luc Colombo, has established beehives at their Cornas vineyard and also become a corporate supporter of the British Beekeepers' Association. The first Colombo vineyard, purchased in 1986, is named Les Ruchets, which means "the beehives" in honour of the colonies on the property.

Jean-Luc Colombo believes in a natural co-existence between insects, animals and grapes, which can only be accomplished through sustainable vineyard practices in which no pesticides are allowed. Colombo considers the dwindling bee population to be one of the biggest threats to nature. "Honey bees pollinate more than 90 per cent of flowering crops and play a vital role in our food chain," he said. He has named one of his best Côtes du Rhône wines Les Abeilles (the bees).



Origine®
BY DIAM

Origine by Diam launched across Europe

20 Mar 2017 | By Caroline Gilby MW



Closure company Diam Bouchage has unveiled a new more sustainable version of the Diam closure range in Europe.

Produced using natural raw materials derived from beeswax and castor oil, the new Origine by Diam joins the existing premium Diam 10 and Diam 30, but offered a higher oxygen permeability, while providing the same structural performance guarantee, said the company.

The range extension had been designed for producers looking for the option of a higher OTR and those demanding "more natural" products, said commercial & marketing director Bruno de Saizieu, adding the new closure would be around 30% to 40% more expensive than the standard Diam range due to the higher cost of raw material.

"Ultimately our goal will be to use the Origine technology in our standard corks, especially sparkling closure Mytik and our top selling Diam 5, once we have some economies of scale," said De Saizieu.

Diam closures are all produced from natural cork bark, ground up to extract the suberin component. Any TCA taint is removed via the patented Diamant process using supercritical CO₂ at 100 bars pressure. The cleaned cork granules are then moulded together with a binding agent and microspheres to ensure impermeability and consistent elasticity.

In the new Origine range the binding agent is produced from food-grade castor oil, with the microspheres produced from beeswax.

"Beeswax is the best option as it has proved to be flexible and stable, with no risk of oxidation or cracking, and as the melting point is above 70 degrees Celsius, it will not break down in normal wine storage," said R&D director Christophe Loisel.

In recognition of the role of bees in producing this wax, [Diam Bouchage](#) said it was providing financial support to a project (Un Toit Pour Les Abeilles) across France to protect the habitat of bees, in addition to sponsoring beehives in every wine region but Champagne.

Diam claimed global closure market share of 10%, across 10,000 clients in 45 countries. It estimated sales were increasing by over 100 million closures per year.

De Saizieu pointed to the "importance of premium wine clients" such as in Grand Cru Burgundy where an estimated 35% of producers used Diam, he said.

He anticipated natural cork in particular would lose share to Origine by Diam because even with its price premium, it was still "competitive against top quality natural closures".

Harpers

Origine by Diam launched across Europe

http://harpers.co.uk/news/fullstory.php/aid/21595/Origine_by_Diam_launched_across_Europe.html

Diam Bouchage Introduces Origine® by Diam a New, Technologically Advanced Sustainable Cork

Made from Natural Ingredient Cork, Beeswax and 100% Vegetable Polyols

NAPA, Calif. (February 22, 2017) – Twelve years after launching its DIAMANT® technology, Diam Bouchage, a global leader in manufacturing technological corks, is once again ready to revolutionize the wine packaging world with Origine® by Diam, a new sustainable cork and major technological and environmental advancement.



“This new innovation offers a natural sealing solution while maintaining the proven reliability of Diam Bouchage in terms of guaranteed no detectable TCA, consistency and oxygen control,” said Francois Margot, Diam Bouchage Sales Manager for North America.

Wine industry networks (22.02.2017)

Diam Bouchage Introduces Origine® by Diam a
New, Technologically Advanced Sustainable Cork

For years, Diam Bouchage's Research & Development department has worked to develop new, environmentally-friendly products. Today, after several years of research on natural ingredients, Diam Bouchage offers Origine by Diam, made from cork, beeswax emulsion and 100% vegetable polyols. This new technology is the result of research combining permeability and natural ingredients, and it responds to the demand from premium customers to create more open permeability closures that maintain the long life needed for aging wines. Currently, Origine by Diam will be offered for Diam 10 and Diam 30 closures in the Diam range for still wines. In the near future, it will be extended to other closures offered by Diam Bouchage.

"The use of beeswax reflects our company's commitment to green practices and products," said Margot. He added, "It is also reflected in the name we chose, Origine by Diam. Pollination performed by honeybees is the basis of the biodiversity of our planet. With oxygen, it is the *origin(e)* of the life cycle of our cork oaks, and thus, our closures. This is why Diam Bouchage is also contributing money to support critical habitats for bees by sponsoring hives in different French wine regions to help build and sustain bee populations."

Diam Bouchage, a French company located in the Pyrenees Orientales, annually produces and sells more than 1.5 billion closures. For more than 10 years, Diam has built its success on the revolutionary DIAMANT process that extracts TCA molecules* responsible for cork taint, as well as other molecules that can affect the taste of wine.

*** Releasable TCA (≤ the limit of quantification of 0.3 ng/l)**

About Diam Bouchage

DIAM Bouchage ("DIAM") is a leader in the manufacturing of technological corks, offering a guarantee of closures with no detectable TCA, thereby assuring absolute consistency cork to cork. DIAM offers corks with different levels of oxygen transmission rates. Using CO₂ via its DIAMANT process, over 150 compounds are removed from each cork, eliminating the risk of "cork taint." Final printing, coating and distribution of DIAM corks are done in the U.S. by its exclusive distributor, G3 Enterprises, Inc. ("G3"). G3's Closure Division in Modesto, California meets the world's most stringent environmental, ethical and economic sourcing standards with Forest Stewardship Council® Chain-of-Custody (FSC® CoC) certification. DIAM FSC® Certified corks can be produced on request. For more information, visit: <http://www.diam-closures.com/>.

Product News

Latest offerings and announcements

Natural closure option

Diam introduced its new Origine closure at the recent Unified Wine & Grape Symposium. The Origine is produced similarly to other Diam closures but is described by the supplier as a more natural option. The agglomerated cork granules are treated with Diam's patented process to strip out any impurities, including TCA, and then held together with beeswax rather than micro-spheres and a new, plant-based binder. The Origine is available with an oxygen transmission rate similar to the Diam 10 and 30 closures, and in the near future it will be extended as an option across Diam's entire portfolio of closures. The Origine and Diam's other closures are distributed in the United States through G3 in Modesto, Calif. g3enterprises.com, diam-closures.com



Wines & Vines
(02.2017)

Natural closure option

Diam Bouchage Launches Entirely Plant-based Origine

As part of its efforts to become a more sustainable company with environmentally friendly products, Diam launched Origine, an agglomerated cork closure made from natural cork, beeswax emulsion and 100 percent organic vegetable polyols. Rather than use a traditional polyurethane binder, the combination of bee by-product and vegetable polyols ensures that the closure is entirely plant-based. This new technology is the result of research combining permeability and natural ingredients, and it responds to the demand from premium customers to create more open permeability closures that maintain the long life needed for aging wines.



“The use of beeswax reflects our company’s commitment to green practices and products,” said **Francois Margot**, sales manager for Diam North America, Japan and China. He added, “It is also reflected in the name we chose, Origine by Diam. Pollination performed by honeybees is the basis of the biodiversity of our planet. With oxygen, it is the origin(e) of the life cycle of our cork oaks, and thus, our closures. This is why Diam Bouchage is also contributing money to support critical habitats for bees by sponsoring hives in different French wine regions to help build and sustain bee populations.”

The oxygen transmission rates and length of time closures are guaranteed for will not be affected by the new products. Origine is currently available for the Diam 10 and Diam 30 lines, though it will be extended to other products in the future. All corks are guaranteed TCA-taint free (less than the limit of quantification of 0.3 ng/l). [WBM](#)

Wine Business Monthly (07.2017)

Diam Bouchage Launches Entirely PPlan-t-based Origine



Corks Out! Diam Bouchage fight back

Hands up who has had a bottle of corked wine? Ok, that's most of you. And I don't mean wine with a few bits of cork floating in it. It's the awful smell and taste of musty or mouldy cardboard. The culprit is TCA, short for 2,4,6-Trichloroanisole. It forms when airborne bacteria and fungi convert human-made compounds found in cork, other wooden or rubber materials. I recently visited cork maker **Diam Bouchage** in Céret in southern France to learn more. It was utterly fascinating.

Wine Alchemy Blog (17.04.29)

Corks Out! Diam Bouchage fight back

<http://www.winealchemy.co.uk/cork-technology-diam-bouchage/>

The tiniest amount of TCA will spoil your wine

Humans are incredibly sensitive to small concentrations of TCA. We can detect single parts per *trillion*. We're talking around 0.3 nano grammes per litre here. Put another way, just 300 grammes of TCA is enough to pollute the world's entire cork production. That's around 20 billion corks per year!

TCA can make wine flat and dull (called flavour scalping) at one part per trillion. Those that are utterly disgusting have around four pts per trillion. That's 1-4 pts per 1,000,000,000,000! Arguably, it's the lower concentration that dulls wine that's the biggest problem. That's because it's easy to assume it's just the wine itself. The stronger the wine, the more likely this is because TCA is less detectable in alcohol than in water!

So TCA occurs where processes fail to remove it from the cork or infections in dirty wineries and storage. It may be that widespread TCA is a modern phenomenon because it does not exist naturally. The spongy outer bark of the Cork Oak tree (*Quercus suber*) is the source of cork. The bark absorbs human-made chemical pollutants like pesticides, and then fungi and bacteria metabolise these into TCA.

The cork crisis

Undrinkable bottles due to TCA infected corks reached unacceptably high levels a dozen or more years ago. I once bought six bottles of Le Méal Hermitage Blanc directly from Chapoutier. Reassuringly expensive, but all badly corked. What a let-down! Get a bad bottle, and you'll be less likely to buy it again.

Corks deserved their bad rap, with 5-7% of bottles affected. No surprise that alternatives like screw caps, plastic corks and even glass stoppers became popular.

This situation forced the cork industry to wake up. It had been a bastion of ancient traditional ways with a virtual market monopoly. Suddenly, there was a potentially fatal blow. Since then, several cork producers like Diam Bouchage led the fightback to eliminate cork taint with new technology.

Alternatives

I'm not going to get into the cork versus screwcap debate here. There are millions of words about it. Suffice to say that screwcap offered a viable alternative, with a lower failure rate. But screwcap isn't entirely free from TCA or other smelly issues like sulphidisation (rotten eggs) either.

My position is this. 95% of all wines are for immediate drinking, and most of that is in the volume trade. When screwcaps offered a way out, no wonder many wineries and distributors took to them with gusto.

However, cork remains at the epicentre of "fine wine" production because of its ability to allow wines to age. Most sparkling wine still uses cork too. Their alternatives are fewer: crown-caps (think beer bottles) or some nasty plastic stopper!

You may prefer cork, screwcap or plastic, or have no preference as long as the wine is clean. You might like the convenience of screwcaps or prefer the ritual of cork. Regardless, the choice of closure is a critical part of winemaking as well as packaging.

The scale of the crisis

There are some 20.5 billion bottles of still and sparkling wines made worldwide each year. Back in 2006, corks had 78% of the market, plastic had 17%, and screwcap had just 5%. The share held by cork fell to 61% by 2016, with 13% were plastic. Screwcaps grew to 26%.

What interests me is the response from the leading cork companies. By developing innovative new technologies, they're winning back customers and reputations. It's a great business case study, and Diam Bouchage is an excellent example, though they are not alone. Now there's confidence and optimism instead of doom and gloom.



DIAM BOUCHAGE - MANAGED CORK OAKS. THE SPONGY OUTER BARK REGENERATES NATURALLY.

Why bother with Cork at all?

Given the quality problems, why bother with a cork at all? Well, because it's natural, sustainable, renewable and traditional. It's also a large employer in regions where there is little other employment. The cork tree harvest uses the spongy outer bark. The tree regenerates each time, so this can happen around ten times during its life. It grows natively across 2.7 million hectares of Portugal, Spain, Algeria, Morocco, Italy, Tunisia, and France. Cork forests support diverse ecosystems and prevent erosion.

Aluminium screwcaps are potentially recyclable. However, strip-mining Bauxite for aluminium isn't eco-friendly. Neither is plastic.

But to compete, corks must be free of TCA and other contaminants. They must also be of consistent size and elasticity, so they don't fail. The winemaker may also want to control the level of oxygen permeation or reduce the amount of sulphur used.

Cork science and manufacturing are far more complicated than I ever imagined.

Diam Bouchage

Diam Bouchage is a French company, making and marketing 1.3 billion cork closures a year; for still and sparkling wines, plus spirits and beer. The stock-exchange listed Oeneo group owns Diam Bouchage and sister-company **Seguin-Moreau**, the famous oak barrel manufacturers.

In response to the TCA crisis, Diam Bouchage entirely remodelled their business. They recruited leaders and expertise from the food packaging industry. They also invested heavily in innovation, research and bespoke manufacture. New facilities include the new €30m factory at Cèret.

And Diam changed their business strategy to focus clearly on the premium winemaking market. While some premium winemakers have adopted screwcaps, this market still prefers to age wine under cork. Diam can also develop an advantageous brand association with these top wines. Meanwhile, those winemakers want to ensure that their wine reaches you tasting as they intended. Today, Diam employ 400 people, with 10,000 clients in 45 countries. As an example, Diam supply 35% of the corks to the prestigious Burgundy *Grand Cru* market.

The Diam process

Diam launched their **Diamant**[®] cork in 2005, purified from TCA and 150 other volatile contaminants by patented methods. **Mytik**[®] is the sparkling wine version. Diam gets their cork from 20,000 hectares of cork oak forests, including their own. The traditional way to make corks was to stamp them whole out of the bark sheets. But this is wasteful, and those corks contain inconsistent flaws. Instead, Diam grinds the raw cork into a flour of small, regularly sized particles.

Diam Bouchage separates the 45% of the flour containing a compound called Suberin. The rest provides heat for the factory. The flour is then purified by “cooking” under intense pressure and temperature by **Supercritical Carbon Dioxide**. It passes through the cork particles like a gas and yet dissolves the taint compounds like a liquid. Hence using SCO_2 is non-toxic and recyclable. It’s entirely different to using toxic solvents like chlorine or peroxides.

This now pure cork flour is bound together with acrylic binder and microspheres. Then this mix is moulded into shape. The new cork fits accurately and allows lasered customer branding on its surface. The ratio of microspheres and cork can be varied to offer the winemaker different permeability options.

An attractive smell of warm cork pervades the Diam factory. It reminded me of maple syrup. It’s a remarkably quiet place too; with every stage quality controlled by banks of computers. Looking out, views of Canigou, the snow-capped Pyrénéan peak, make a stunning backdrop!

A new cork: Origine

Readers might have noted that Diamant isn't an entirely natural product. It's because of the synthetic acrylic used for the binder and microspheres. Hence Diam has been researching how to replace acrylic with various natural compounds for the last eight years.

In March 2017, Diam brought out a new natural cork called **Origine**[®]. Incredibly, **Beeswax** microspheres mixed with castor oil binder replace the acrylic. These corks can still last up to 30 years. For this, Diam needs 1-3 tonnes of beeswax per year. Hence they source, sponsor and protect GMO- and Nicotinoid-free beehives across France.

For me, this is a particularly exciting development. I would imagine that organic and biodynamic winemakers will find this ethical cork irresistible.



My final thoughts

If premium winemakers prefer Diam corks, then they're good enough for me! Examples include Champagne Billecart-Salmon, Bollinger, Olivier Leflaive, Jaques Prieur, JJ Confuron, Louis Jadot, Bouchard, Ruggeri and Feudi di San Gregorio. If you like watching videos, see what Alsace maestros Hugel think about Diam.

Next time you pull a cork, consider the efforts the cork industry is making!



Oh, and what happens to that evil TCA? The face-cream industry uses it as an anti-oxidant!

DIAM LAUNCHES AGGLOMERATED CORK WITH PLANT-BASED BINDER

17th March, 2017 by Patrick Schmitt

Diam has launched a new agglomerated cork that uses a plant-based binder and beeswax filler in place of polyurethane glue and plastic microparticles.



Called Origine by Diam, the new closure incorporates a beeswax emulsion and a binder composed of 100% vegetable polyols, and was officially launched in France yesterday.

Speaking to *the drinks business* on Monday this week, ahead of the big unveiling at Diam's factory in the southern French town of Céret yesterday, sales director Bruno de Saizieu said that the closure innovation was driven by a demand from winemakers for a more "natural" agglomerated closure.

Although he said that the traditional Diam closure, which uses acrylate microparticles to fill the tiny air spaces in the agglomerated closure, along with a polyurethane glue to bind the ground cork, was "approved by all the regulations", he added that "some wanted more *naturalité*".

Explaining the constituents of the closure, he said that every agglomerated cork has three parts: the cork, the binder and microparticles, adding that while

Drink Business (17.03.2017)

Diam launches agglomerated cork with plant-based binder

<https://www.thedrinksbusiness.com/2017/03/diam-launches-agglomerated-cork-with-plant-based-binder/>

the cork hasn't changed, the binder in the Origine is now made from 100% vegetable polyols, while the

microparticles are created from beeswax.

Continuing, he stressed that the new closure was not designed to replace the existing Diam agglomerated corks, but to add to the range of products from the company, as well as meet a specific desire for a "more natural" solution. Indeed, he stated, "We believe that in the future the demand will be bigger for natural products."

When asked by *db* about the performance of the new agglomerated cork, Bruno said that Origine's elasticity is the same as the standard Diam closure, because the amount and type of cork used in the closure is identical.

As for the oxygen transmission rate (OTR) of the new product, this too is unaffected by the use of different materials – and Origine can be bought as either a Diam 10 and Diam 30 – the numbers referring to the length of time the closure is guaranteed for, which in this case is either 10 or 30 years (and the latter comes with a 'very low permeability characteristics, and is 'particularly suited to wines for laying-down' according to Diam's marketing material).

"The microfiller is used to avoid the any liquid getting inside the cork, and now we use beeswax [in place of plastic polymers], but the result is the same – although it's much more expensive," said Bruno.

Although Origine by Diam was officially launched to the international press yesterday, the closure has already been shown to wine producers in the US and France this year, and Bruno told *db* that the take-up for the new product was remarkable.

"In two weeks we have already had orders of more than one million [units], and so I expect, in the first year, we will probably sell 5m," he said of the Origine agglomerated cork, adding, "I am surprised at how fast it has sold."

Due to the higher cost of the "natural" materials used in the agglomerated cork, Origine is around 33% more expensive than its equivalent using the standard binder and microfiller, with Bruno telling *db* that if the average price for 30,000 Diam 10 corks was approximately €300, then the same number of Origine stoppers would cost €400.

He then said that "the next step" for the company was to create an agglomerated cork for sparkling wine using the same "natural" materials.

He also strenuously denied the suggestion by *db* that the creation of Origine had been motivated by claims that the plastic-based glues in agglomerated corks were capable of leaching potentially carcinogenic substances into wine.

"There is no migration of materials from the glue into the wine," he stated, referring to the standard Diam stoppers.

Origine by Diam is not the first agglomerated cork to do away with plastic-based glue.





Launched earlier this year, Sughera from Labrenta claims to be the first agglomerated cork with no glue

Launched earlier this year was [Sughera](#) from [Labrenta](#), which claims to be “the first [agglomerated] cork closure with no glue at all”.

According to [Labrenta's](#) sales and marketing manager [Riccardo Tiso](#), the binding agent is a “secret”, but he told *db* that the cork granules are held together by a “polymer used in bio-medicine that guarantees the durability of the closure and is much more pure than glue.”

Meanwhile, in 2013, [Synthetic closure specialist Nomacorc](#) launched a stopper part-made from [plant-based biopolymers](#) to meet a demand from winemakers for a closure that offered some of the environmental benefits of natural cork, but the consistency of a synthetic product, according to [Jeff Slater](#), global director of marketing at [Nomacorc](#).

Finally, it should be noted that the cork used for [Origine](#) by [Diam](#) goes through the same patented [Diamant](#) process as [Diam](#) agglomerated corks, which sees the finely-milled cork granules treated with extremely hot, pressurised liquid carbon dioxide to remove as many as 150 different molecules in the natural material, including [TCA](#), according to [Bruno](#).

However, such an energy-intensive process does mean that the carbon footprint of a [Diam](#) agglomerated cork is higher than even a screwcap closure, which, due to the aluminium used in its creation, produces more than six times as much carbon dioxide during its manufacture than a whole natural cork.

Les tweets de l'année

Stuart Martin Pigott @PigottRiesling · Oct 20
Here's confirmation that with cork closure bottle variation is real and substantial. In my view this is best argument against corks.

Jancis Robinson @JancisRobinson
Why the same wine can taste so different bit.ly/1Ln8vA8

Walter Scott Wines @walterscotwine · Following

@PigottRiesling @JancisRobinson that is one of the biggest reasons we moved to @Diam_cork. It was not just TCA issues!

RETWEET 1 | LIKES 2

4:16 pm · 21 Oct 2016

the drinks business @teambd · Following

.@Diam_cork launches a new agglomerated cork that uses a plant-based binder and beeswax filler #winecork #closures



Diam launches agglomerated cork with plant-based binder
Diam has launched a new agglomerated cork that uses a plant-based binder and beeswax filler in place of polyurethane glue and plastic microparticles.
thedrinksbusiness.com

RETWEETS 3

2:55 pm - 17 Mar 2017

Paul Howard @WineAlchemy1 · Follow

So impressed by new revolutionary & sustainable #Origine cork at @Diam_bouchage @Diam_cork, done a Remington & bought shares! NOT Fin advice

7:52 pm - 22 Mar 2017

RETWEETS 1 | LIKES 1

CSWWC @CSWWC2017 · Suivre

Get a life use @Diam_cork says @mrtomfizz to winemakers at @PlumptonBSc_V_O wine workshop! Consistency is key



Anne Dowling @sagratinogirl · Following

I breath a sigh of relief whenever I pull out a DIAM cork. Kudos to producers who use them. Patricia Green Cellars, Liquid Farm among them.

Brad Greatrix @GreatrixBrad · Suivre

Next cork trial underway with three new contenders. Diam is undefeated since 2009, but no resting laurels 'round here.

