WINE

Corks out!

Many wine-makers are steering clear of natural cork and are instead turning to **alternative closures**. These offer numerous advantages and save disappointment.

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Let's work it out: In 2008, Germans spent €7.2 billion on wine and sparkling wine. The cork industry estimates that no more than fifty percent of bottles were sealed using natural and agglomerated corks. In terms of figures, this wine would still be worth somewhere in the region of €3.5 billion. It's a risky business! Even if only two percent of these bottles were spoiled by bad corks, that's still €70 million of wine that probably ended up down the drain. And five percent would be €175 million. Produced, paid for and destroyed. How frustrating. The reason behind these corked wines is the presence of chlorine compounds such as trichloroanisole (TCA), a mixture of smells such as sweaty underarms, musty cellars and fuel, a chemical compound which makes all infected wines undrinkable.

And so corks present a bit of a problem. For a long time, manufacturers – the Iberian cork giants – had no reason to fear competition. They had a virtual monopoly. Cork was considered to be the only way of sealing and storing wine in bottles. Natural cork is essentially a super material. It's highly elastic, water-resistant, easy to work with, cheap and environmentally friendly. Ideal. So too as a source of wealth for its producers. Every few years, manufacturers strip bark from the trunk of cork oaks growing in vast forests and straighten it out in boiling water. This is then sterilised using sulphur. After punching, the corks are smoothed down to normal size (unfortunately as a result, the wavy surface created by the punching tool offering an additional seal effect, is worn away). They're then washed and bleached with chlorine and peroxide, ozonised, blocked (filling pores and cracks) and eventually dyed. The corks are also 'refined' with wax or silicon so they are easy to slide out of the neck of bottles. One tree will produce around 4,000 corks.

Nevertheless, the global wine boom of the last 30 years has seen a growing demand for corks. Even over the other side of the world, wine-makers were buying in corks from Mediterranean countries. But people tend to tire of monopolies and quality suffers. For years, the Iberian giants didn't invest any money in hygiene or research or any sort of quality control procedure that went beyond appearance. Instead of offering one single top-quality product they offered eight products. These range from little stubs covered with pores for a few cents each to elegant, 54 mm long corks each costing €2, smooth and flawless with hardly any visible pores. The huge demand for corks also led to cheap cork being pressed from shredded waste material. The risk of TCA contamination is particularly high with these granulated corks, so-called technical corks (picture 8).

For years, stressed wine-makers have been looking for alternatives and are now finding more and more of them. First of all there were coloured, injection-moulded corks, then came extruded synthetic corks, both of which offer the advantage of not requiring any modifications to existing machinery – wine-makers have to invest in new bottling facilities and bottles in the case of some other, better closures. After all, they are out there: aluminium screw tops some of which have been stylishly designed with an invisible thread, glass stoppers, stainless steel crown corks and even synthetic corks for resealing (picture 1). All of these are better than poor-quality corks as they all produce TCA-free results. However, they are only intended for those wines which do not benefit from being stored for a long time and those which do not need to be. These closures are produced for quick consumption.

Let's go through the alternatives to cork. Those with sub-optimal results are the synthetic stoppers (pictures 9 and 10) and simple screw tops (pictures 5 and 7) as these aren't as airtight as cork. This is mainly due to the fabrication tolerances of the bottles, offset by the elastic, natural material of cork.

More positive feedback goes to stainless steel crown corks (picture 6), glass stoppers (picture 12) and the latest generation of screw tops (picture 3). Stainless steel crown corks are airtight, discreet and can't be recognised as rededicated beer tops at all when placed underneath a sleek cap. Even the only totally airtight closure to date (picture 2), created by inventor Rudolf Gantenbrink, is showing promise. "Wine-makers are guaranteed that the product they bottle will still be the same later on", says the manufacturer. "The wine is totally authentic and the contents of every bottle exactly the same." Unfortunately the process used to make them, whereby glass and glass closures can be welded together at 1,200 degrees and then opened again without shattering, is considerably more expensive than that of all the other alternative closures.

Meanwhile among the cork oaks, people have woken up and the cork industry is taking action. Following more and more scandals involving large quantities of contaminated wine, suppliers of cork are treating their goods with considerably more care and some are even checking for problems using gas chromatography machines.

For the cork giants, there's the little matter of approx. 100,000 jobs in seven countries as well as over two million hectares of cork forest which play a major role in the ecosystem of Mediterranean countries – although they would do even if no more cork was removed. Unless it is all cut down and more amusements parks are built on top. Amorim, a market leader producing around one quarter of all cork worldwide, speaks of €43 million, which has apparently been invested over the last few years with a view to improving quality.

However, the alternative closures are now unstoppable, which is a good thing. In the end, the market will decide how long the risky natural material can hold its ground. There are still wine associations and consortia out there using natural cork, such as Chianti Classico, Barolo and Brunello. How long they will carry on remains to be seen.

It could end up like this: those wines which are drunk immediately while still young will be given a screw top to crack open, crown cork or a synthetic cork (picture 11) which allows them to breathe. Those wines which are stored a little longer but need to retain their origin and freshness will be sealed using glass stoppers, the latest generation of screw tops, crown corks, or select natural corks. Wines which are stored for a long time and need to mature will be given the best, hand-picked natural corks tested for their permeability or completely airtight, welded glass closures. High prices will no longer be any consequence for bottles of wine costing €100 and over.

(1) Synthetic closure with polymer-coated aluminium seal, invisible thread
Pros: relatively airtight, odourless, resealing, seal band
Cons: according to manufacturers, only suitable for storing wine for a maximum of five years
Cost: approx. 14 cents*

(2) 100% glass closure
Pros: totally airtight and odourless, reusable, first results are very encouraging
Cons: expensive, needs special bottles and openers, slows down the bottling process
Cost: approx. €1.50*

(3) Screw top - long with invisible thread, aluminium with tin-coated synthetic seal
Pros: airtight, odourless, audible cracking open effect, resealing
Cons: no knowledge about long-term storage, costly to recycle
Cost: approx. 15-30 cents*

(4) Screw cap - long, aluminium with tin-coated synthetic seal
Pros: airtight, odourless, audible cracking open effect, resealing, tried and tested for 30 years
Cons: only suitable for relatively short-term storage, costly to recycle
Cost: 10-20 cents*

(5) Screw top - medium length, aluminium with tin-coated synthetic seal
Pros: airtight, odourless, resealing, audible cracking open effect, tried and tested for 30 years
Cons: only suitable for relatively short-term storage, costly to recycle
Cost: 10-20 cents*

(6) Stainless steel crown cork with synthetic cap
Pros: airtight, odourless, crush proof, easy to use, resealing with a special opener
Cons: no 'pop', without the 'Premium Finish' synthetic cap it reminds you of a beer top
Cost: approx. 24 cents*

(7) Screw top - short, aluminium with synthetic seal
Pros: odourless, resealing
Cons: no audible 'pop' or cracking open effect, doubts over whether it is airtight
Cost: 10-11 cents*

(8) Technical cork / agglomerated cork made of granulated cork and glue
Pros: 'Twin Top' cork disc keeps granules and glue away from the wine, looks like natural cork when in the bottle
Cons: drawbacks associated with agglomerated cork without a separating cork disc (glue)
Cost: 12-17 cents*

(9) Synthetic stopper made of injection-moulded polyethylene
Pros: odourless, feels like cork, softener vapour not yet proven wrong
Cons: suitability for long-term storage not yet proven
Cost: 13-17 cents*

(10) Synthetic stopper, three-layer plastic material
Pros: odourless, feels like cork, easy to open, modern appearance
Cons: suitability for long-term storage not yet proven
Cost: approx. 25 cents*

(11) Synthetic stopper, foamed synthetic extrusion
Pros: odourless, suitable for corkscrews, available with different oxygen permeability rates depending on storage time up to a maximum of 6 years
Cons: suitability for long-term storage not yet proven
Cost: approx. 15 cents*

(12) Closure made of glass and PVC-free seal ring, underneath a protective cap (not shown)
Pros: airtight, odourless, resealing, easy to open
Cons: needs bottle with special mouth, very small sealing surface, long-term storage tests underway
Cost: 30-50 cents*

*Average prices, depending on quantity and print