

BOXING CLEVER

Bag-in-box is the neglected child of the trade press. When it comes to packaging issues, bottled wine receives all the attention, with most of the discussion centring on the hot topic of closures; but bag-in-box constitutes a significant proportion of wines sold globally, and it is increasingly important in many markets, writes Dr. Jamie Goode.

In principle, bag-in-box is a brilliant idea. Putting wine in a plastic bag with a tap suits those consumers who drink modestly or infrequently. As a glass is drawn from the box the internal bag collapses so that no air can enter to fill the gap left by the vacated wine. This avoids subsequent oxidation; the residual wine is kept fresh for a number of weeks. In contrast, as soon as a glass is poured from a bottle the process of oxidation is set in place, leading to wasted wine if the bottle isn't finished within a few days. For a large segment of the drinking population this isn't an issue, because a bottle is consumed in a single sitting, but trends in consumption are changing even in the classic European wine producing countries. Modern lifestyles mean that increasingly midweek wine consumption is restricted to a glass here, a glass there, which makes bag-in-box ideal.

Another advantage of bag-in-box, is cost savings through the transport chain. BiB is a highly economical way of shipping wine, getting more of it into the same container, and avoiding the excess weight and potential for breakage of glass. A pallet of BiB wine holds 80% more liquid and is less than two thirds the weight of the same bottled product. For entry level wines, the reduced transport costs can significantly affect the retail price point. They also have great appeal to retailers because they are easy to merchandise, and marketers love them for the space that the box gives them to apply their designs and messages; but there are some technical issues associated with their use that can result in compromised wine quality.

Australian David Woolford has 20 years experience with bag-in-box, including 15 with Scholle, the market

leader. He's now chairman of the board at Aran in Israel, a bag-in-box company that primarily focuses on food packaging but also does wine. The major technical hurdle encountered in bag-in-box for wine is high oxygen transmission of the bag material, which can result in rapid product evolution and short shelf life. 'There are three primary barriers used

1 Bag in box volumes in key countries

Country	Share of market
Australia	53%
Denmark	6%
France	20%
Germany	8%
Norway	48%
Russia	13%
Sweden	56%
United Kingdom	20%
United States	14%

SOURCE: SKALLI & REIN, GLOBAL WINE CLOSURES REPORT 2006 & WINE BUSINESS INTERNATIONAL

by major companies', explains Woolford. „The most common over the last 25 years has been metallised polyester, which is a piece of polyester with a vacuum-deposited aluminium layer on the plastic“. In this process the aluminium is turned into a gas in a vacuum and attracted to the plastic by electrical charge.

„The second is coextrusion with ethyl vinyl alcohol (EVOH): this has proved to be an extremely good oxygen barrier in the food packaging area“, Woolford points out. Scholle's Durashield is an example of this technology. „The third technology is combinations of the two used together, to create different types of laminate in order to overcome

transport issues related to BiB, reducing flex cracking, which affects the barrier properties of the metallised polyester bag.“

No solution is perfect

None of these solutions is perfect. „The majority of people who use metallised polyester suggest that it has barrier properties in its virgin state of less than 1 cc/m² per 24h in pure oxygen,, says Woolford, „compared with 0.6 cc/m² per 24h for EVOH. If you consider that the typical 4 litre bag has a surface area of 0.32 x 0.34 m, then the theoretical oxygen ingress is very high compared with bottled wine.“ It follows from this that the larger bag size, the more beneficial the surface to volume ratio is and the longer the shelf life. In the real world of the distribution chain, the situation is actually worse. „When metallised polyester is flexed its barrier properties can increase by many times the starting rate, and can hit three or four times the original oxygen transmission levels“, points out Woolford. „EVOH doesn't suffer from the same oxygen transmission degradation through flexing, but it is susceptible to barrier compromise at higher temperature and humidity.“

Another source of oxygen transmission is the tap. And then there is the filling procedure itself: the tap is taken out, the bag filled through the spout and the tap is then replaced. Also, lots of bags used now are duplex, and some air can be entrapped between the layers.

The result of all this is that wine in bag-in-box, in particular white wine, is susceptible to fairly rapid oxidation, which necessitates fast product turnover. „An expert taster will find a difference after 4 months“, Woolford says, „but for the average consumer, after 8 months the wine is still drinkable“. As a conse-

quence, there has been a move toward filling bags at their destination market, which also has the advantage of further lowering costs for shipping. Justin Knock, winemaker with Australian giant FGL Wine Estates reports that they are increasingly doing this in Scandinavia, where BiB is very popular. The normal three month shipping time, however, would permit only a short shelf life.

In addition, the sulphur dioxide levels of bag-in-box products are usually altered to counter the higher oxygen transmission. In the UK trade, a frequently heard quip is that wholesaler Matthew Clark's distribution centre in Bristol is the largest winery in Europe – this is where a lot of wine is shipped in bulk, tweaked as necessary depending on the packaging employed, and then either bottled or put into bag-in-box.

When it comes to shelf life, rather than focus on the technical deficiencies of BiB, Woolford suggests that we turn the issue around. „The attitude should be that we see bag-in-box as a fast-moving consumer item. We therefore need good inventory management, moving the package from filling to consumption in the shortest time possible.“

One issue that is of interest to the trade is whether branded wines work in bag-in-box, and whether you can have both alongside each other on the supermarket shelf. Knock's experience with FGL is that it does, and they've achieved success with the likes of Lindemans, Rawson's Retreat and Wolf Blass Eaglehawk. „Some of the new packaging had bottle shots on it, reinforcing the fact that it is bottle quality product“, he reports. Constellation have also tried the same approach with their brands Hardy's Stamp and Stowells, with some success, reassuring consumers that they are getting exactly the same wine as they would if they bought the bottle. Whether classical wines such as Bordeaux, Rioja or Chianti Classico can be marketed in BiB as easily as varietal wines, in particular those of the New World, is an interesting question that no studies to date have addressed. Jean Guyon, owner of several estates in the Médoc, has taken

the notion of marketing high end wines in BiB the furthest. He bagged 12.000 litres of his 2003 Château Rollan de By, a wine with 90 Parker points, in a designer box that sold well in the States. Moreover, a year after shipment, he claims that „the bagged wine is still drinking as well as the bottled version.“

What size is right?

Some markets, such as China, have yet to see much bag-in-box; others, such as Germany, remain sceptical; and in the others there seems to be no clear consensus about the most effective pack size. In the UK and Scandinavia it is 3 litres, but in other markets, such as Australia and the US, larger pack sizes are popular. It is likely that some pack sizes are historic artefacts: for example,



in the UK, as in Asia, the fridges are typically smaller than in the US, and regulations in some American states prohibit wine being sold in certain sized packages. In Australia and South Africa the 4 litre pack predominates, and the 2 litre premium package is quite strong. In Japan smaller sizes are also preferred for the standard wines. One potential stumbling block for large pack sizes is the ultimate total cost. While the wine per glass is cheaper bought this way, the high initial outlay can be a deterrent to consumers.

Sweden represents an interesting case study for BiB wine. According to Ulf Sjödin, PR Manager for V&S Wine,

off-trade sales figures for 2006 to the end of September showed that BiB has 55.6% of still light wine sales, compared with 8.7% for tetrapak and only 35.7% for glass. Sjödin cites several reasons for the popularity of bag-in-box in Sweden. The first is price: „A bag-in-box is usually 25 to 60 SEK (€2.25 to 5.50) cheaper than four bottles of the same brand and this is probably the most important reason for its popularity“, reports Sjödin. Another is convenience: „You can easily carry four boxes from the store, two in each hand. 16 bottles are much heavier“, he reports. This is allied to purchasing habits. Because wine has to be bought in the monopoly shops, of which there are only 400 in the country, most consumers tend to stock up while they are there. „Buying boxes simply makes the logistics easier for most people“, says Sjödin; and producers, like Torres, who have refused to bag their wines admit that they are losing market share. There's also the shift in drinking patterns from weekend binging to more continental drinking habits where a glass of wine on weekday evenings is more common. Sjödin adds that, „Among the best selling brands are J.P. Chenet, the local brand Chill Out, Lindemans and Penfolds. Many brands are packed in boxes specifically for the Swedish market.“

From the sales figures, the future looks bright for bag-in-box, which is showing steady growth in most markets. However, it could be that the recent surge of interest in BiB by the consumer is merely being driven by an industry cycle – and there is perhaps a latent health issue that might need to be addressed, but that no one in the industry wants to discuss openly at present „There's a worldwide trend to put better quality wines in bag-in-box“, says Woolford. „But“, he points out, „how high can you go? There has been a huge surplus of wine, even good wine, to go into it. When there's been surplus product, historically BiB has offered better quality at a lower price, and then value for money rises. If wine is in short supply it moves the other way.“ ■