



Evaluating alternative packages

Nicolas Quillé
Chief Winemaking and Operations Officer

PINE RIDGE
VINEYARDS

SINCE 1895
SEGHESIO
Family Vineyards

Archery Summit

CHAMISAL
VINEYARDS

DOUBLE
CANYON

SEVEN HILLS
WINERY

MALENE

THE
Estates
WINE ROOM™



Alternative packaging check list



- What are the sizes available and associated compliance/logistics?
- What material(s) is in contact with the wine?
- What is the weight of the package?
- What is the cost of the container?
- What are the logistics surrounding the filling of the package?
- What are the OTR /TPO and their impact on shelf life?
- What are the SO₂ requirements and CO₂ limitations?
- How sterile/clean is the package?
- What is the recyclability of the package?
- Which market needs can this package address?
- What is the carbon footprint of the package?



Widespread alternatives to glass bottle packaging



- Bag in Box
- PET bottle
- Tetra Prisma
- Stainless steel keg
- PET Keg
- Aluminum can
- Astrapouch





Alternative packaging check list



Properties	Bag in Box	PET bottle	Tetra Prisma Aseptic	Stainless steel keg	PET Keg	cans	Astrapouch
sizes for wine	1.5 to 18 liters	187ml to 1.5L.	500ml, 750ml, 1L	19.5L – (58.6L possible)	15, 20, 30L	250ml & 375ml	187ml to 5L
Material in contact with wine	PE (nylon layers inside)	PET with SiOx oxygen barrier	six layers of paper (70%), PET (24%) and aluminum (6%) + plastic cap	304 SS, pickled and passivated. Blended gas pushes the wine	Colored PET. fittings are polypropylene plastic with few SS parts	Anti acid-liner (epoxy) contains BPA	PET
Weight (750ml eq.)	42 g	54 g	33 g	244 g	42 g	28 g	19 g
Cost of container (9L eq.)	3L: \$2.1/cs (including box)	\$4.5/cs (+ label & closure)	\$5.5/cs (500ml)	19.5L: \$50/cs though can be rented	20L: \$6.75/cs to \$7.6/cs	\$5+ /cs	\$6/cs
Cost of filling	≤\$1.5/bag. Small machines available	same line as glass	\$4 to \$5/cs	\$21-\$30/keg		\$8 to \$15/can case (24 x 375ml)	Uses BiB lines with slight modification



Alternative packaging check list



Properties	Bag in Box	PET bottle	Tetra Prisma Aseptic	Stainless steel kegs	PET Kegs	Cans	Astrapouch
LCO OTR TPO Shelf life	9 mo shelf life. OTR: 1mg /l/mo	6 mo shelf life. Largest OTR (25 times BiB)	18 mo shelf life	12-18 mo for white, longer for reds – no measurable OTR	At least 12 mo. 9 mo a good average	No O ₂ . 6 to 12 mo Ball warrantee	9 mo shelf life if filled well (<0.5 ppm DO at filling). OTR is 1/4 th of BiB
So ₂	Up SO ₂ by 10 ppm – at least 40ppm free		No specific change			No copper preferred	Up SO ₂ by 10ppm
CO ₂	<700ppm	Both still and frizzante	<500ppm	Both still and frizzante	Both still and frizzante (≤5.5 g/L)		<500ppm
Sterility Cleanliness	Non sterile package often requiring pre-fill filtration/DMDC/sorbate			caustic citric/H ₂ O steam Sterile filtration at filling	micro free. plate tested	sterile filled or pasteurized (tunnel or flash)	Same as BiB
Light impact	Protected by outer box	some – though light blockers	No light	No light	dark amber resin + outer packaging	None	0% light in due to light barrier



Alternative packaging check list



Properties	Bag in Box	PET bottle	Tetra Prisma Aseptic	Stainless steel keg	PET Keg	Aluminum Can	Astrapouch
Recyclability	Box is recyclable	Highly recyclable but only 28% recycled	Low recyclability	Reusable	Highly recyclable but will it be?	High. In the USA 65% recycled	Lowest landfill impact
Marketability	On premise (6 to 8 weeks life) Printing options 3L retail business	Portability, places where glass is not welcome. Needs label and closure	Portability, places where glass is not welcome. Great printing options	BTG on premise, retrofitting, complex supply chain, inventory management of kegs	Once way kegs	Portable 375ml business tamper proof Craft beer like	Portable great printing options Very light
Full cycle carbon footprint (light weight glass is 6Kg/9L)	2.2Kg/9L	3.2 Kg/9L	2.4Kg/9L	185Kg/9L over 30 years. = 3.1 Kg/9L with 2 fills per year	Similar to PET bottle?	?	3.3Kg/9L



Thank you and stay in touch



Dave Moynihan, Astrapouch

Heather Clauss, Free flow wines

Kinza Sutton, Plastipak

Andrew Tapper, Petainer kegs/G3

Charles Andureu, Smurfit Kappa

Nicolas.Quille@CrimsonWineGroup.com