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The influence of packaging on the chemical evolution of white wine as a function of the operating conditions adopted during storage

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As a consequence of some objective limitations for the extensive use of glass containers in food industry (i.e. heavy weight, fragility to internal pressure, impact and thermal shock, etc.), nowadays there is growing worldwide demand for alternative solutions to glass also for bottling wine in order to propose inexpensive and practical to use packaging resources. Among all the possible wine packaging materials it has been possible to observe an expansive utilization of polymeric materials including PET bottles, multilayer tetrabricks and bag-in-box type containers. Packaging, being the barrier that protects wine against environmental conditions, plays a fundamental role in the preservation of the quality of wine during all its life cycle, just starting from the bottling. With the aim to determine the influence of packaging in preserving the quality of wine, in this research project the chemical evolution of a white table wine stored in different packaging materials (glass bottles provided with different closures; bag-in-box containers; tetrabricks) and different volumes (2 volumes for each packaging) has been evaluated over a period of 12 months. For each packaging solution two different temperature levels (4° and 20°C) were also maintained throughout the storage period. The preliminary results obtained after 12 months of storage indicate that chemical wine evolution might be greatly influenced by the packaging characteristics (i.e. packaging material and volume). Furthermore, also the temperature used during the storage period plays a key role on the evolution of wine since it can directly influence the oxygen permeability of the system "wine + package".

Biography

Zinnai A completed her 1st PhD from the Scuola Superiore Sant'Anna, Pisa. She is working as an Associate Professor of Food Technology at Pisa University. In 2008, she received a "Special Mention" at "Montana Premium" for Food Science Research (with her colleague Venturi F.). She published more than 90 papers in journals or volumes and serving as a referee for research projects and papers. She was a scientific responsible for an Original Patent (PT2009A000018) that received a "Special mention of the Jury" at 24° SIMEI. She was a Chair at Bioprocess 2013 (Kansas City, USA) and at Food Technology 2014 (Las Vegas, USA).

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