Wine is a traditional food that has been linked to human life since ancient times, especially present in the Western world, and that has been assessed and developed from multiple viewpoints including economic, social, artistic, and literary, complementary with each other. Regular moderate wine intake is recognized among the major characteristics of the Mediterranean diet, which constitutes a unique model, recommended by many specialists and several dietary guidelines in different countries.

In recent years, the topic “wine and health” has aroused much interest, although not absent from certain controversy. A large number of studies and scientific contributions have been carried out within this area. To date, increased and improved knowledge from a huge number of studies investigating wine components that can negatively affect the health of moderate wine drinkers has provided us useful solutions to decrease or to avoid their presence in wines. As a consequence, specific knowledge is currently available for winemakers to control and/or prevent the formation of harmful compounds in wine. Additionally, new issues related to the increase of wine alcohol content most likely due to climate change and other environmental awareness are of growing interest to the wine industry as well as to consumers. Wine, both from biotechnology and nutrition understandings, is at the forefront of “-omics” field progress. In the coming days, the “-omics” approaches will provide insights for designing metabolic processes in new-generation wine yeast that need to warrant consumer acceptability, as well as for determining human metabolic traits derived from moderate wine intake.

Wine is considered a hedonic product. One of the main motivations of consumers when consuming the product is the pleasure generated, which is linked to perceived quality. Research about consumer behavior (perception, attitudes, perceived quality factors) and especially about consumer’s preferences for new values (sustainability, Mediterranean diet, health) remains a gap in the science of wine and represents a potential barrier to the winemaking sector when marketing wines. However, it is now apparent that different factors acting together can affect aroma perception during wine consumption, which provides us enormous opportunities to improve our understanding in this area. It is well documented in scientific studies published more than three decades ago that moderate wine consumption as part of a diet and
healthy lifestyle is associated with lower risk of developing and dying from diseases such as cardiovascular disease, certain cancers, diabetes, and neurodegenerative diseases such as dementia, Alzheimer’s and Parkinson’s. Most of these advances have been focused on the study of wine phenolic compounds, confirming their key role in some healthy aspects derived from wine consumption.

From an integrated perspective, the purpose of this book is to provide a state-of-the-art overview of what is known about wine safety and health-related considerations together with the perception of the product from the prospect of the consumer, and to summarize the ways in which such knowledge may be used.

It is hoped that Wine Safety, Consumer Preference, and Human Health will be a useful tool for researchers and educators working in both the private and public sectors. Above all, however, it will be a valuable resource for those starting out on the fascinating journey through the world of wine science.

Coordinated by M. Victoria Moreno-Arribas and Begoña Bartolomé Sualdea from the Spanish National Research Council (CSIC), this book brings together a unique collaboration of contributors from a range of experts on the chemistry, microbiology, and nutritional aspects of wine working in universities, research centers, hospitals and medical centers, and government agencies. The editors would like to express their thanks to Springer and all the authors who contributed their expertise and know-how to the success of this book.

Madrid, Spain

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Wine Safety, Consumer Preference, and Human Health
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2016, XIV, 323 p. 36 illus., 24 illus. in color., Hardcover
ISBN: 978-3-319-24512-6