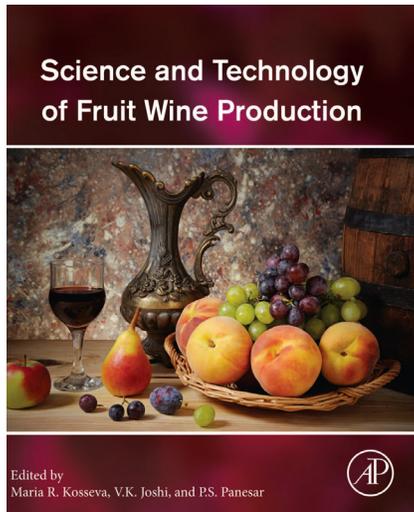


Book Review

Science and Technology of Fruit Wine Production edited by Maria R. Kosseva, V.K. Joshi and P.S. Panesar, 2016 Elsevier, Academic Press is an imprint of Elsevier, UK, pp. 705.



Several handbooks of Oenology have been published since the beginning of the 20th century, when this science really emerged. But the work edited by Drs. R. Kosseva, V.K. Joshi and P.S. Panesar brings together in a remarkable way the current knowledge of wines obtained from a wide variety of other fruits. All the aspects are approached, since the obtaining of fruits of quality until the fermentation process and stabilization, while passing by the different technological operations adapted to each type of wine. Related topics such as nutritional and health aspects, or the uses and treatment of residues are also part of the book. Innovation is present in all the chapters, a sign that the progress of the basic knowledge of microbiology, chemistry, and technology is always used to bring safety and pleasure to producers and consumers.

The first very comprehensive chapter presents in a clear way the different aspects of the science and technology of fermented fruits. Very accurately, it allows readers to discover the variability and similarities of fruit wines. Two chapters then present the microorganisms and their metabolisms which are at the origin of wines tastes and aromas. The chemical composition of fruit juices and wines is detailed with extreme precision. It highlights the diversity of molecules and the variables prevalence of some of them according to the fruits. Their impact on health and therapeutic values are largely addressed because many of these molecules are bioactive, such as phenolic compounds to which a large place is granted. An important chapter is devoted to physicochemical, chromatographic, microbiological and sensory analysis methods most of the time in reference to grape wine analyzes, especially to the official methods of the OIV. Then, comes the second major part of the book, which brings together five fundamental chapters on production technology: first a general chapter on new and emerging methods and techniques, membrane technologies and their applications, technology and fundamentals of pumping liquids in a simple and explicit way. All the new technologies appropriate for the preservation of wines, especially to prevent microbial contaminations and alterations are described through examples drawn from numerous works (High hydrostatic pressure, high pressure CO₂, ultrasounds, microwaves, pulse electric field). The following four chapters are specific to each type of wine, and include the various treatments of raw material, all stages of the process up to the finished product and its chemical and sensory analysis, with particular emphasis on the microbiological aspects of fermentation and possible spoilage. Nothing is forgotten; the production of wines from rare and little-known raw materials (trees, flowers, sweat potato, tomato and cocoa) is discussed. This large part of the book also deals with the technology of special wine production such as fortified wines, sparkling and brandies produced from different fruits. Two complementary chapters are dedicated to the fruit and wine waste and resource bio-recovery. They include the valuation of by-products, of lees, and the technologies for wastewater treatment in the environment. Mainly dealing with grape wine and cider, the topic of the following chapter is on innovation: innovation in the vineyard for example with “precision viticulture” based on the whole ecosystem, viticulture practices, choice of variety, vineyard variability, etc. Innovation in the cellar, which many times is a return to older wine-making practices and other new technologies like sensors for improving monitoring, the rapidity and accuracy of intervention during the process.

The last chapter finishes masterfully this book. After reading the previous chapters, it ensures a clear and complete synthesis of the general production process of fruit wines, highlighting the differences related to the raw material and the preparation of musts. Finally, the reader will find various recipes to make him/herself wines from different fruits.

This book is a unique guide for professionals, teachers and students who will find there the traditional bases, innovations and development perspectives of all fruit wines. It provides readers with detailed knowledge and answers, with a high scientific level and fruit specificity. It is a masterful complement to treaties that have so far been mostly devoted to wine in its original meaning, fermented grape juice. While exposing the diversity of wines produced from fruits other than grapes, it reveals the ubiquity of the biological and chemical phenomena involved, and highlights the differences. Written and edited by renowned scientists, specialists in the various fields covered, it is based on an impressive bibliography. This book is a real encyclopedia.

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