Understanding Wine Technology The Science Of Wine Explained

This volume applies an inductive experimental approach to recognize, control and resolve the variables that effect the wine-making process and the quality of the final product - focusing on the grape variety-yeast interaction controversy. It contains over 300 drawings, photographs and photomicrographs that illustrate the diagnostic morphology of wine yeast and bacteria used to track wine spoilage and related problems. "Meticulously researched history…look[s] at how wine and Western civilization grew up together." —Dave McIntyre, Washington Post Because science and technology have opened new avenues for vintners, our taste in wine has grown ever more diverse. Wine is now the subject of careful chemistry and global demand. Paul Lukacs recounts the journey of wine through history—how wine acquired its social cachet, how vintners discovered the twin importance of place and grape, and how a basic need evolved into a realm of choice.

Purple sweet potato (PSP) is a special type of sweet potato with high concentration of anthocyanin pigment in the root. It is rich in starch, sugar, minerals, vitamins and antioxidants like phenolics, ?-carotene, and has a strong prospect as substrate for alcoholic fermentation. The low cost of sweet potato and its prospective usage in the production of alcoholic beverages make it viable for commercialization. The book reviews the use of the roots of PSP for the production of three novel products, i.e. anthocyanin rich wine (red wine), herbal/medicinal sweet potato wine, and anthocyanin rich beer which have higher health benefit than other wines and beers. The book elucidates the use of novel technologies in the preparation of this non-conventional wine and beer, processing, biochemical and organoleptic quality of the finished products and health implications. It will be of interest to innovators, researchers and students. The novel technologies in wine and beer making described in the book will set a precedence for production of other alcoholic beverages from starchy sources.

Science and Technology of Fruit Wine Production includes introductory chapters on the production of wine from fruits other than grapes, including their composition, chemistry, role, quality of raw material, medicinal values, quality factors, bioreactor technology, production, optimization, standardization, preservation, and evaluation of different wines, specialty wines, and brandies. Wine and its related products have been consumed since ancient times, not only for stimulatory and healthful properties, but also as an important adjunct to the human diet by increasing satisfaction and contributing to the relaxation necessary for proper digestion and absorption of food. Most wines are produced from grapes throughout the world, however, fruits other than grapes, including apple, plum, peach, pear, berries, cherries, currants, apricot, and many others can also be profitably utilized in the production of wines. The major problems in wine production, however, arise from the difficulty in extracting the sugar from the pulp of some of the fruits, or finding that the juices obtained lack in the requisite sugar contents, have higher acidity, more anthocyanins, or have poor fermentability. The book demonstrates that the application of enzymes in juice extraction, bioreactor technology, and biological de-acidification (MLF bacteria, or de-acidifying yeast like schizosaccharomyces pombe, and others) in wine production from non-grape fruits needs serious consideration. Focuses on producing non-grape wines, highlighting their flavor, taste, and other quality attributes, including their antioxidant properties Provides a single-volume resource that consolidates the research findings and developed technology employed to make wines from non-grape fruits Explores options for reducing post-harvest losses, which are especially high in developing countries Stimulates research and development efforts in non-grape wines

The second edition of Wine Science: Principles, Practice, Perception updates the reader with current processes and methods of wine science, including an analysis of the advantages and disadvantages of various new grape cultivar clones, wine yeast strains, and malolactic
bacteria. It also addresses current research in wine consumption as related to health. The many added beautiful color photographs, graphs, and charts help to make the sophisticated techniques described easily understandable. This book is an essential part of any library. Key Features * Universally appealing to non-technologists and technologists alike * Includes section on Wine and Health which covers the effects of wine consumption on cardiovascular diseases, headaches, and age-related macular degeneration * Covers sophisticated techniques in a clear, easily understood manner * Presents a balance between the objective science of wine chemistry and the subjective study of wine appreciation * Provides updated information involving advantages/disadvantages of various grape cultivar clones, wine yeast strains, and malolactic bacteria * Chapter on recent historical findings regarding the origin of wine and wine making processes

In the beginning, for me, winemaking was a romanticized notion of putting grape juice into a barrel and allowing time to perform its magic as you sat on the veranda watching the sunset on a Tuscan landscape. For some small wineries, this notion might still ring true, but for the majority of wineries commercially producing quality wines, the reality of winemaking is far more complex. The persistent evolution of the wine industry demands continual advancements in technology and education to sustain and promote quality winemaking. The sciences of viticulture, enology, and wine chemistry are becoming more intricate and sophisticated each year. Wine laboratories have become an integral part of the winemaking process, necessitating a knowledgeable staff possessing a multitude of skills. Science incorporates the tools that new-age winemakers are utilizing to produce some of the best wines ever made in this multibillion dollar trade. A novice to enology and wine chemistry can find these subjects daunting and intimidating. Whether you are a home winemaker, a new winemaker, an enology student, or a beginning-to-intermediate laboratory technician, putting all the pieces together can take time. As a winemaker friend once told me, “winemaking is a moving target.” Introduction to Wine Laboratory Practices and Procedures was written for the multitude of people entering the wine industry and those that wish to learn about wine chemistry and enology.

Grapevine Breeding Programs for the Wine Industry: Traditional and Molecular Techniques summarizes recent trends in grapevine breeding, both in terms of research and practical programs. The first group of chapters covers the challenges faced by breeders and existing and emerging techniques used to combat them. Two further groups of chapters focus on grapevine breeding programs in different wine-producing countries around the world. With authoritative contributions from experts across the world’s winemaking regions, this book will be an essential reference for all those involved in viticulture and oenology wanting to explore new methods, understand different approaches and refine existing practices. Covers challenges faced by breeders Highlights grapevine breeding programs in different wine-producing countries Contributions from experts across the world’s winemaking regions

Wine Science, Third Edition, covers the three pillars of wine science – grape culture, wine production, and sensory evaluation. It takes readers on a scientific tour into the world of wine by detailing the latest discoveries in this exciting industry. From grape anatomy to wine and health, this book includes coverage of material not found in other enology or viticulture texts including details on cork and oak, specialized wine making procedures, and historical origins of procedures. Author Ronald Jackson uniquely breaks down sophisticated techniques, allowing the reader to easily understand wine science processes. This updated edition covers the chemistry of red wine color, origin of grape varieties, wine language, significance of color and other biasing factors to wine perception, various meanings and significance of wine oxidation. It includes significant additional coverage on brandy and ice wine production as well as new illustrations and color photos. This book is recommended for grape growers, fermentation technologists; students of enology and viticulture, enologists, and viticulturalists. NEW to this edition: * Extensive revision and additions on: chemistry of red wine color, origin of grape varieties, wine language, significance of
color and other biasing factors to wine perception, various meanings and significance of wine oxidation * Significant additional coverage on
brandy and ice wine production * New illustrations and color photos
Following up on his bestselling Winery Technology and Operations, physical chemist and winemaker Yair Margalit comes
out with the successive, Concepts in Wine Technology, fully updated and revised to meet the advances of modern
winemaking. Among the extended topics are fermentation, skin contact, acid balance, phenolics, bottling, the use of oak
and quality control. He begins in the vineyard discussing proper maturation, soil and climate, bunch health, vineyard
disease states, and grape varieties. Next he tackles the preharvest with a careful look at vineyard management and
preparing the winery for harvest. Dr. Margalit then outlines the entire process of harvesting, from destemming, crushing,
and skin contact as it applies to both red and white grapes to pressing, must correction, and temperature control.
Fermentation is examined fully and includes a lengthy look at the factors affecting malo-lactic fermentation and its pros
and cons. There is a chapter on cellar operations that deals with racking, stabilization, fining, filtration, blending, and
maintaining winery hardware, followed by sections on barreling and bottling. The final chapter pulls together the more
general aspects of wine technology, covering sulphur-dioxides, different forms of wine spoilage and ways to ward them
off, legal regulations and, one of the most important and enigmatic compounds in wine, phenolics.
Understanding Wine Technology A Book for the Non-scientist that Explains the Science of Winemaking
Dbqa Publishing
The aim of this book is to describe chemical and biochemical aspects of winemaking that are currently being researched.
The authors have selected the very best experts for each of the areas. The first part of the book summarizes the most
important aspects of winemaking technology and microbiology. The second most extensive part deals with the different
groups of compounds, how these are modified during the various steps of the production process, and how they affect
the wine quality, sensorial aspects, and physiological activity, etc. The third section describes undesirable alterations of
wines, including those affecting quality and food safety. Finally, the treatment of data will be considered, an aspect which
has not yet been tackled in any other book on enology. In this chapter, the authors not only explain the tools available for
analytical data processing, but also indicate the most appropriate treatment to apply, depending on the information
required, illustrating with examples throughout the chapter from enological literature.
Grape and Wine Biotechnology is a collective volume divided into 21 chapters focused on recent advances in vine
pathology and pests, molecular tools to control them, genetic engineering and functional analysis, wine biotechnology
including molecular techniques to study Saccharomyces and non-Saccharomyces yeast in enology, new fermentative
applications of nonconventional yeasts in wine fermentation, biological aging on lees and wine stabilization, advanced
instrumental techniques to detect wine origin and frauds, and many other current applications useful for researchers,
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lecturers, and vine or wine professionals. The chapters have been written by experts from different universities and research centers of 13 countries being representative of the knowledge, research, and know-how of many wine regions worldwide.

Revised edition of: Wine production / Keith Grainger and Hazel Tattersall. Oxford; Ames, Iowa: Blackwell Pub., 2005. This revolutionary book is the only indepth reference to detail the processes, developments, and factors affecting the science of winemaking. Jamie Goode, a highly regarded expert on the subject, skilfully opens up this complex subject and explains the background to the various processes involved and the range of issues surrounding their uses. He reports on the vital progress in winemaking research that has been made in the last decade and explains the practical application of science with reference to the range of winemaking techniques used around the world, as well as viticultural practices, organics and ecology, and lifestyle influences. Written in a uniquely accessible style, the book is divided into three sections covering the vineyard, the winery and human interaction with wine. It also features over 80 illustrations and photographs to help make even the most complex topics clear, straightforward and easy to understand.

Many aspects of both grape production and winemaking influence wine sensory properties and stability. Progress in research helps to elucidate the scientific basis of quality variation in wine and suggest changes in viticulture and oenology practices. The two volumes of Managing wine quality review developments of importance to wine producers, researchers, and students. The focus is on recent studies, advanced methods and likely future technologies. The first volume Viticulture and wine quality opens with chapters reviewing current understanding of wine aroma, colour, taste and mouthfeel. Part two focuses on the measurement of grape and wine properties. Topics covered include instrumental analysis of grape, must and wine, sensory evaluation and wine authenticity and traceability. The effects of viticulture technologies on grape composition and wine quality attributes are the subject of part three. Terroir, viticultural and vineyard management practices, fungal contaminants and grape processing equipment are among the areas discussed.

With authoritative contributions from experts across the world’s winemaking regions, Managing wine quality: Volume1: Oenology and wine quality is an essential reference for all those involved in viticulture and oenology wanting to explore new methods, understand different approaches and refine existing practices. Reviews current understanding of wine aroma, colour, taste and mouthfeel Details the measurement of grape and wine properties through instrumental analysis, must and wine, and sensory evaluation Examines viticulture and vineyard management practices, fungal contaminants and processing equipment

ALL YOU NEED TO KNOW ABOUT GROWING VINES IN 123 PAGES. This book is a an introduction to the professional world of growing grapes and aimed at the serious student in the wine trade, WSET Diploma student or Master of Wine
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candidate. It is also very useful for those thinking of setting up vineyards as it answers a lot of the basic questions. Has sold over 4,500 copies now and received LOTS of emails saying how helpful it has been. Couldn't have become an MW without your book was the latest endorsement! This book is also being sold on www.lulu.com at a lower price.

Molecular Wine Microbiology features rigorous scientific content written at a level comprehensible for wine professionals as well as advanced students. It includes information on production and spoilage issues, the microbial groups relevant for wine production and microbial wine safety. Microbiology has long been recognized as a key tool in studying wine production, however only recently have wine microbiology studies been addressed at a molecular level, increasing the understanding of how microbiology impacts not only the flavor quality of the wine, but also its safety. Understanding, at a molecular level, how a starter culture can impact ethanol, glycerol, volatile phenols, mannoproteins, biogenic amines or ochratoxin A of a wine are just some of the core points that must be considered in order to achieve maximum consumer acceptability while addressing safety concerns during processing and storage. While other books offer insights into the technological aspects of enology, this book is written by expert microbiologists, who explore the positive and negative impacts of gene function in the production of wine, from a microbiological point of view.

Winner of the 2012 Jury Award in Enology from the International Organisation of Vine and Wine Presents the most current methods of studying the microbiology of wine Includes latest identification and typing methods, reducing identification time from days and weeks to minutes and hours Provides important knowledge about the impact of microbiological factors at the molecular level for reduction of wine spoilage and increased wine quality and safety

Red Wine Technology is a solutions-based approach on the challenges associated with red wine production. It focuses on the technology and biotechnology of red wines, and is ideal for anyone who needs a quick reference on novel ways to increase and improve overall red wine production and innovation. The book provides emerging trends in modern enology, including molecular tools for wine quality and analysis. It includes sections on new ways of maceration extraction, alternative microorganisms for alcoholic fermentation, and malolactic fermentation. Recent studies and technological advancements to improve grape maturity and production are also presented, along with tactics to control PH level. This book is an essential resource for wine producers, researchers, practitioners, technologists and students. Winner of the OIV Award 2019 (Category: Enology), International Organization of Vine and Wine Provides innovative technologies to improve maceration and color/tannin extraction, which influences color stability due to the formation of pyranoanthocyanins and polymeric pigments Contains deep evaluations of barrel ageing as well as new alternatives such as microoxygenation, chips, and biological ageing on lees Explores emerging biotechnologies for red wine fermentation including the use of non-Saccharomyces yeasts and yeast-bacteria coinoculations, which have effects in wine aroma and sensory quality, and also control spoilage microorganisms

Case Studies in the Wine Industry aims to close the gap between academic researchers and industry professionals through real world scenarios and field-based research. The book explores how consumer and sensory science has been implemented in the wine industry to achieve certain goals, including the rejuvenation of product image, the shaping of new market places, the
achievement of market differentiation and geographical diffusion, the achievement of customer loyalty, and the promotion of traditional features of the product. There is an emerging demand from wine industry professionals and undergraduate and postgraduate students who attend business and agricultural studies courses who want to gain practical information through real cases and field-based research. Bridges the gap between scholars and practitioners in understanding consumers of wine Allows scientists and professionals to make the most of R&D outcomes Advances consumer science research to address business problems in the wine industry

Wine chemistry inspires and challenges with its complexity, and while this is intriguing, it can also be a barrier to further understanding. The topic is demystified in Understanding Wine Chemistry, which explains the important chemistry of wine at the level of university education, and provides an accessible reference text for scientists and scientifically trained winemakers alike. Understanding Wine Chemistry: Summarizes the compounds found in wine, their basic chemical properties and their contribution to wine stability and sensory properties Focuses on chemical and biochemical reaction mechanisms that are critical to wine production processes such as fermentation, aging, physiochemical separations and additions Includes case studies showing how chemistry can be harnessed to enhance wine color, aroma, flavor, balance, stability and quality. This descriptive text provides an overview of wine components and explains the key chemical reactions they undergo, such as those controlling the transformation of grape components, those that arise during fermentation, and the evolution of wine flavor and color. The book aims to guide the reader, who perhaps only has a basic knowledge of chemistry, to rationally explain or predict the outcomes of chemical reactions that contribute to the diversity observed among wines. This will help students, winemakers and other interested individuals to anticipate the effects of wine treatments and processes, or interpret experimental results based on an understanding of the major chemical reactions that can occur in wine.

An up-to-the-moment new edition of Jamie Goode’s celebrated wine science book. A thoroughly revised and updated third edition of this essential and groundbreaking reference gives a comprehensive overview of one of the most fascinating, important, and controversial trends in the world of wine: the scientific and technological innovations that are now influencing how grapes are grown and how wine is made. Jamie Goode, an authority on wine science, details the key scientific developments relating to viticulture and enology, explains the practical application of science to techniques that are used around the world, and explores how these issues are affecting the quality, flavor, and perception of wine. The only complete and accessibly written resource available on the subject, The Science of Wine engagingly discusses a wide range of topics including terroir, the influence of soils on wine flavor, breeding new resistant grape varieties, the effects of climate change on grape growing, the role of yeasts and bacteria in winemaking, and much more. A must-have reference for a wide audience of students, winemakers, wine professionals, and general readers interested in the science of wine.

"The Science of Wine does an outstanding job of integrating 'hard' science about wine with the emotional aspects that make wine appealing."--Patrick J. Mahaney, former senior Vice President for wine quality at Robert Mondavi Winery "Jamie Goode is a rarity
in the wine world: a trained scientist who can explain complicated subjects without dumbing them down or coming over like a pointy head. It also helps that he’s a terrific writer with a real passion for his subject." -- Tim Atkin MW, The Observer

A New York Times Best Wine Book of 2018 Flawless is the first book of its kind dedicated to exploring the main causes of faults in wine. From cork taint, to volatile acidity, to off-putting aromas and flavors, all wine connoisseurs have encountered unappealing qualities in a disappointing bottle. But are all faults truly bad? Are some even desirable? Jamie Goode brings his authoritative voice to the table once again to demystify the science behind what causes a good bottle to go bad. By exposing the root causes of faults in wine, Flawless challenges us to rethink our assumptions about how wine should taste and how we can understand beauty in a glass.

Interest in wine science has grown enormously over the last two decades as the health benefits of moderate wine consumption have become firmly established in preventing heart disease, stroke, cancer and dementia. The growth of molecular biology has allowed proper investigation of grapevine identity and lineage and led to improvements in the winemaking process. Interest in wine science has grown enormously over the last two decades as the health benefits of moderate wine consumption have become firmly established in preventing heart disease, stroke, cancer and dementia. The growth of molecular biology has allowed proper investigation of grapevine identity and lineage and led to improvements in the winemaking process. Interest in wine science has grown enormously over the last two decades as the health benefits of moderate wine consumption have become firmly established in preventing heart disease, stroke, cancer and dementia. The growth of molecular biology has allowed proper investigation of grapevine identity and lineage and led to improvements in the winemaking process. Interest in wine science has grown enormously over the last two decades as the health benefits of moderate wine consumption have become firmly established in preventing heart disease, stroke, cancer and dementia. The growth of molecular biology has allowed proper investigation of grapevine identity and lineage and led to improvements in the winemaking process.

Wine is one of the oldest forms of alcoholic beverages known to man. Estimates date its origins back to 6000 B.C. Ever since, it has occupied a significant role in our lives, be it for consumption, social virtues, therapeutic value, its flavoring in foods, etc. A study of wine production and the technology of winemaking is thus imperative. The preparation of wine involves steps from harvesting the grapes, fermenting the must, maturing the wine, stabilizing it finally, to getting the bottled wine to consumers. The variety of cultivars, methods of production, and style of wine, along with presentation and consumption pattern add to the complexity of winemaking. In the past couple of decades, there have been major technological advances in wine production in the areas of cultivation of grapes, biochemistry and methods of production of different types of wines, usage of analytical techniques has enabled us to produce higher quality wine. The technological inputs of a table wine, dessert wine or sparkling wine, are different and has significance to the consumer. The role played by the killer yeast, recombinant DNA technology, application of enzyme technology and new analytical methods of wine evaluation, all call for a comprehensive review of the advances made. This comprehensive volume provides a holistic view of the basics and applied aspects of wine production and technology. The book comprises production steps, dotted with the latest trends or the innovations in the fields. It draws upon the expertise of leading researchers in the wine making worldwide.

When asking the question what is wine? there are various ways to answer. Wine is extolled as a food, a social lubricant, an antimicrobial and antioxidant, and a product of immense economic significance. But there is more to it than that. When did humans first start producing wine and what are its different varieties? Are wines nutritious or have any therapeutic values—do they have any role in health or are they simply intoxicating beverages? How are their qualities determined or marketed and how are these associated with tourism? Concise Encyclopedia of Science and Technology of Wine attempts to answer all these questions and more. This book reveals state-of-the-art technology of winemaking, describing various wine regions of the world and different cultivars used in winemaking. It examines microbiology, biochemistry, and engineering in the context of wine production. The sensory qualities of wine and brandy are explored, and the composition, nutritive and therapeutic values, and toxicity are summarized. Selected references at the end of each chapter provide ample opportunity for additional study. Key Features: Elaborates on the recent trends of control and modeling of wine and the techniques used in the production of different wines and brandies Focuses on the application of biotechnology, especially genetic engineering of yeast, bioreactor technological concepts,
enzymology, microbiology, killer yeast, stuck and sluggish fermentation, etc. Illustrates the biochemical basis of wine production including malolactic fermentation Examines marketing, tourism, and the present status of the wine industry Concise Encyclopedia of Science and Technology of Wine contains the most comprehensive, yet still succinct, collection of information on the science and technology of winemaking. With 45 chapters contributed by leading experts in their fields, it is an indispensable treatise offering extensive details of the processes of winemaking. The book is an incomparable resource for oenologists, food scientists, biotechnologists, postharvest technologists, biochemists, fermentation technologists, nutritionists, chemical engineers, microbiologists, toxicologists, organic chemists, and the undergraduate and postgraduate students of these disciplines.

Poets extol the burst of aroma when the bottle is opened, the wine poured, the flavor on the palate as it combines with the olfactory expression detected and the resulting glow realized. But what is the chemistry behind it? What are the compounds involved and how do they work their wonder? What do we know? Distinct and measurable differences in terroir, coupled with the plasticity of the grape berry genome and the metabolic products, as well as the work of the vintner, are critical to the production of the symphony of flavors found in the final bottled product. Analytical chemistry can inform us about the chemical differences and similarities in the grape berry constituents with which we start and what is happening to those and other constituents as the grape matures. The details of the grape and its treatment produce substantive detectable differences in each wine. While there are clear generalities - all wine is mostly water, ethanol is usually between 10% - 20% of the volume, etc - it is the details, shown to us by Analytical Chemistry and structural analysis accompanying it, that clearly allow one wine to be distinguished from another.

The first book to focus on the role of glass as a material of critical importance to the wine industry For centuries glass has been the material of choice for storing, shipping, and sipping wine. How did that come to pass, and why? To what extent have glassmaking and wine making co-evolved over the centuries? The first book to focus on the role of glass as a material of critical importance to the wine industry, The Glass of Wine answers these and other fascinating questions. The authors deftly interweave compelling historical, technical, and esthetic narratives in their exploration of glass as the vessel of choice for holding, storing, and consuming wine. They discuss the traditions informing the shapes and sizes of wine bottles and wine glasses, and they demystify the selection of the “right glass” for red versus white varietals, as well as sparkling and dessert wines. In addition, they review the technology of modern glassmaking and consider the various roles glass plays in wineries—especially in the enologist's laboratory. And they consider the increasing use of aluminum and polymer containers and its potential impact on the central role of glass as the essential material for wine appreciation. The first book focusing on the role of glass and its central importance to the wine industry Written by a glass scientist at UC Davis, home of the premier viticulture and enology program in North America Interlards discussions of the multi-billion-dollar glass and wine industries with valuable technical insights for scientists, engineers, and wine enthusiasts alike Illustrates the wide spectrum of bottles, carafes, decanters, and drinking glasses with an abundance of exquisite full-color photos Both an authoritative guide and a compelling read, The Glass of Wine tells the story of the centuries-old marriage between an endlessly fascinating material and a celebrated beverage. It is sure to have enormous appeal among ceramic and glass professionals, wine makers, and oenophiles of all backgrounds.

The aim of this book is to describe the fundamental aspects and details of certain gas chromatography applications in Plant Science, Wine technology, Toxicology and the other specific disciplines that are currently being researched. The very best gas chromatography experts have been chosen as authors in each area. The individual chapter has been written to be self-contained so that readers may peruse
particular topics but can pursue the other chapters in the each section to gain more insight about different gas chromatography applications in the same research field. This book will surely be useful to gas chromatography users who are desirous of perfecting themselves in one of the important branch of analytical chemistry.

Any student who has ever logged credits in a viticulture and enology class knows David Bird's book: it is the most widely assigned wine science primer in the English-speaking world. This completely revised and updated edition to Bird's classic textbook deciphers all the new scientific advances from the last several years, and conveys them in his typically clear and plainspoken style that renders even the densest subject matter freshman friendly. The new material includes an expanded section on the production of red, rose, white, sweet, sparkling, and fortified wines; information on histamine, flash detente, maceration, and whole bunch and whole berry fermentation; an expanded chapter on wine faults, including Brettanomyces; a new section on HACCP analysis as applied to a winery; and much more.

An overview of wine making by-products and their conventional and non-conventional uses, Valorization of Wine Making By-Products gives you a deeper understanding of recovery processes that are a part of the new philosophy of sustainable agriculture. In line with the worldwide movement toward sustainable development, this book examines how to conver

As the wine industry has experienced a period of rapid global expansion, there is a renewed emphasis on quality and consistency even within the small winery industry. Written for the small production program, A Complete Guide to Quality in Small-Scale Wine Making is for the novice to intermediate level winemaker seeking foundational information in chemistry and sensory science as they relate to wine quality at a technical level. Drawing from personal experience as well as scientific literature, this book introduces the core concepts of winemaking before delving into methods and analysis to provide practical insights into creating and maintaining quality in the wine product. Understand the chemistry and sensory science at the foundation of quality wines Explore real-world examples of key analysis and application of concepts Practice methods and exercises for hands-on experience

The "Microbiology" volume of the new revised and updated Handbook of Enology focuses on the vinification process. It describes how yeasts work and how they can be influenced to achieve better results. It continues to look at the metabolism of lactic acid bacterias and of acetic acid bacterias, and again, how can they be treated to avoid disasters in the winemaking process and how to achieve optimal results. The last chapters in the book deal with the use of sulfur-dioxide, the grape and its maturation process, harvest and pre-fermentation treatment, and the basis of red, white and speciality wine making. The result is the ultimate text and reference on the science and technology of the vinification process: understanding and dealing with yeasts and bacterias involved in the transformation from grape to wine. A must for all serious students and practitioners involved in winemaking.

More than 150 years after Louis Pasteur attributed fermentation to a living organism, the field of wine microbiology and chemistry is vibrant with discovery. The last decade alone has seen great strides in our understanding of the biochemistry involved in vinification. In this new edition of his classic text, Yair Margalit gives the complete and current picture of the basic and advanced science behind these processes, making the updated Concepts in Wine Chemistry the broadest and most meticulous book on the topic in print. Organized to track the sequence of the winemaking process, chapters cover must and wine composition, fermentation, phenolic compounds, wine oxidation, oak products, sulfur dioxide, cellar processes, and wine defects. Margalit ends with chapters detailing the regulations and legal requirements in the production of wine, and the history of wine chemistry and winemaking practices of old.

I Taste Red is the first book of its kind to address and relate all the different sensory and psychological factors that shape our experience of
tasting wine. Award-winning author Jamie Goode explores how our sensory system, psychology, philosophy, and flavor chemistry all play a central part in our perception and enjoyment of wine. He uses case studies, grounded in practice, to demonstrate his theory and to illuminate his conclusions about how language and sensory output help us construct our recognition and interpretation of flavor. He examines whether wine tasting as a skill is objective or subjective and the implications of this distinction for wine experts. Delving deep into the science of wine but bringing in the influences of psychology, language, and philosophy, this book is a must-read for all lovers of wine.

From OIV-award-winning author, Ronald S. Jackson, Wine Tasting: A Professional Handbook, Third Edition, is an essential guide for any professional or serious connoisseur seeking to understand both the theory and practice of wine tasting. From techniques for assessing wine properties and quality, including physiological, psychological, and physicochemical sensory evaluation, to the latest information on the types of wine, the author guides the reader to a clear and applicable understanding of the wine tasting process. With its inclusion of illustrative data and testing technique descriptions, the book is ideal for both those who train tasters, those involved in designing wine tastings, and the connoisseur seeking to maximize their perception and appreciation of wine. Contains revised and updated coverage, notably on the physiology and neurology of taste and odor perception Includes expanded coverage of the statistical aspect of wine tasting (specific examples to show the process), qualitative wine tasting, wine language, the origins of wine quality, and food and wine combination Provides a flow chart of wine tasting steps and production procedures Presents practical details on wine storage and the problems that can occur both during and following bottle opening.

Any student who has ever logged credits in a viticulture and enology class knows Bird's book. It is the most widely assigned wine science primer in the English speaking world. This completely revised and updated edition to Bird's classic textbook deciphers all the new scientific advances that have cropped up in the last several years, and conveys them in his typically clear and plainspoken style that renders even the densest subject matter freshman-friendly. New material includes: expanded section on the production of red, rose, white, sweet, sparkling and fortified wines; information on histamine, flash detente, maceration, whole bunch and whole berry fermentation; expanded chapter on wine faults, including Brettanomyces; new section on HACCP analysis as applied to a winery; and much more.

In Postmodern Winemaking, Smith shares knowledge he has accumulated in engaging, humorous, and erudite essays that convey a new vision of the winemaker's craft—one that credits the crucial roles played by both science and art in the winemaking process. Smith, a leading innovator in red wine production techniques, explains how traditional enological education has led many winemakers astray—enabling them to create competent, consistent wines while putting exceptional wines of structure and mystery beyond their grasp. Great wines, he claims, demand a personal and creative engagement with many elements of the process. His lively exploration of the facets of postmodern winemaking, together with profiles of some of its practitioners, is both entertaining and enlightening.

Naturalness is a hot topic in the wine world. But what exactly is a natural wine? For this book, best-selling wine writer Jamie Goode has teamed up with winemaker and Master of Wine Sam Harrop to explore the wide range of issues surrounding authenticity in wine. Sam Harrop initially trained as a winemaker in New Zealand.

White Wine Technology addresses the challenges surrounding white wine production. The book explores emerging trends in modern enology, including molecular tools for wine quality and analysis of modern approaches to maceration extraction, alternative microorganisms for alcoholic fermentation, and malolactic fermentation. The book focuses on the technology and biotechnology of white wines, providing a quick reference of novel ways to increase and improve overall wine production and innovation. Its reviews of recent studies and technological
advancements to improve grape maturity and production and ways to control PH level make this book essential to wine producers, researchers, practitioners, technologists and students. Covers trends in both traditional and modern enology technologies, including extraction, processing, stabilization and ageing technologies Examines the potential impacts of climate change on wine quality Provides an overview of biotechnologies to improve wine freshness in warm areas and to manage maturity in cold climates Includes detailed information on hot topics such as the use of GMOs in wine production, spoilage bacteria, the management of oxidation, and the production of dealcoholized wines