

1. Record Nr.	UNINA9910975158703321
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Titolo	Wine Science : Principles and Applications
Pubbl/distr/stampa	Burlington, : Elsevier Science, 2014
ISBN	1-78539-887-3
Edizione	[4th ed.]
Descrizione fisica	1 online resource (1015 p.)
Collana	Food Science and Technology
Disciplina	663.2
Soggetti	Viticulture Wine and wine making Wine Chemical & Materials Engineering Engineering & Applied Sciences Chemical Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Front Cover; Wine Science; Copyright Page; Contents; About the Author; Preface; Acknowledgments; 1 Introduction; Grapevine and Wine Origin; Commercial Importance of Grapes and Wine; Wine Classification; Still Table Wines; Sparkling Wines; Fortified Wines (Dessert and Appetizer Wines); Wine Quality; Health-Related Aspects of Wine Consumption; Suggested Reading; References; 2 Grape Species and Varieties; Introduction; The Genus <i>Vitis</i> ; Geographic Origin and Distribution of <i>Vitis</i> and <i>Vitis vinifera</i> ; Domestication of <i>Vitis vinifera</i> ; Cultivar Origins; Recorded Cultivar Development Grapevine ImprovementStandard Breeding Techniques; Modern Approaches to Vine Improvement; Clonal Selection; Somaclonal Selection and Mutation; Grapevine Cultivars; <i>Vitis vinifera</i> Cultivars; Interspecies Hybrids; Suggested Reading; References; 3 Grapevine Structure and Function; Structure and Function; The Root System; The Shoot System; Tendrils; Leaves; Reproductive Structure and Development; Inflorescence (Flower Cluster); Berry Growth and Development; Suggested Reading; Root System; Shoot System; Photosynthesis and Transpiration; Reproductive System; Berry Maturation

Factors Affecting Berry Maturation; 4 Vineyard Practice; Vine Cycle and Vineyard Activity; Management of Vine Growth; Yield/Quality Ratio; Physiological Effects of Pruning; Pruning Options; Pruning Level and Timing; Bearing Wood Selection; Pruning Procedures; Training Options and Systems; Selected Training Systems; Ancient Roman Example; Vigor Regulation (Devigoration); Rootstock; Vine Propagation and Grafting; Multiplication Procedures; Grafting; Soil Preparation; Vineyard Planting and Establishment; Irrigation; Timing and Need for Irrigation; Water Quality and Salinity

Types of Irrigation; Fertilization; Factors Affecting Nutrient Supply and Acquisition; Assessment of Nutrient Need; Nutrient Requirements; Organic Fertilizers; Disease, Pest, and Weed Management; Pathogen Control; Consequences of Pathogenesis for Fruit Quality; Examples of Grapevine Diseases and Pests; Harvesting; Criteria for Harvest Timing; Sampling; Harvest Mechanisms; Measurement of Vineyard Variability; Suggested Reading; References; 5 Site Selection and Climate; Soil Influences; Geologic Origin; Texture; Structure; Drainage and Water Availability; Soil Depth; Soil Fauna and Flora

Nutrient Content and pH; Color; Organic Content; Topographic Influences; Solar Exposure; Wind Direction; Frost and Winter Protection; Altitude; Drainage; Atmospheric Influences; Minimum Climatic Requirements; Temperature; Solar Radiation; Wind; Water; Suggested Reading; References; 6 Chemical Constituents of Grapes and Wine; Introduction; Overview of Chemical Functional Groups; Chemical Constituents; Water; Sugars; Pectins, Gums, and Related Polysaccharides; Alcohols; Acids; Phenolics and Related Phenyl Derivatives; Aldehydes and Ketones; Acetals; Esters; Lactones and Other Oxygen Heterocycles

Terpenes and Their Oxygenated Derivatives

Sommario/riassunto

With its three previous best-selling editions, *Wine Science* has proven to be an extensive account of the three central tenets of wine science: grape cultivation, wine production, and wine assessment. This fourth edition presents the latest updates on current wine production methods in a framework that explains the use, as well as the advantages and disadvantages of alternate procedures. Ronald Jackson's wealth of experience is matched by his ability to effectively communicate, making this book ideal for those seriously interested in the science of wine as well as professionals, profe
