



Olive Processing Waste Management

Literature Review and Patent Survey, 2nd Edition

Waste Management Series, 5

By

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The book contains a comprehensive review of literature and patent survey concerning olive processing waste. Over 1,000 citations are presented. Wastes considered include olive cultivation solid waste, wastes arising from classical, three- and two-phase olive mills and wastes generated during table olive processing. In addition, information is presented concerning the management of spent olive oil (e.g. from cooking). The book is divided into five parts.

Part I presents background information concerning the characterization of olive processing wastes, their environmental impacts if disposed untreated and the effect of utilised olive-mill technology on the quantity and quality of generated wastes. Part II presents physical, thermal, physico-chemical, biological and combined or miscellaneous processes for treating olive-mill wastes. Part III concerns information on utilization of such wastes with or without prior treatment. Part IV concentrates on table olive processing waste and presents information regarding its characterization, treatment and uses. Part V presents an economical and legislative overview regarding olive-mill waste. The book contains a bibliography, glossary of terms used in the text, subject, patent and author indices as well as pertinent internet sites and authorities.

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Foreword to the 1st edition. Foreword to the 2nd edition.

Part I. Background Information. 1. Introduction. Olive and oil production statistics. Olive growing and environmental effects. The problem of olive processing wastes. Current practices for olive processing waste management. Terminology. Reviews in the prior art. 2. Characterization of Olive Processing Waste. The olive fruit. Olive by-products. Experimental techniques. Determination of partition coefficient (K_p). Analysis of metal cations and inorganic anions. Antioxidant activity. Identification of bacteria. Feed analysis. 3. Environmental Effects. Effects on soil. Effects on water. Effects on atmosphere. 4. The Effect of Olive-Mill Technology. Evolution of production methods. Olive oil production systems.

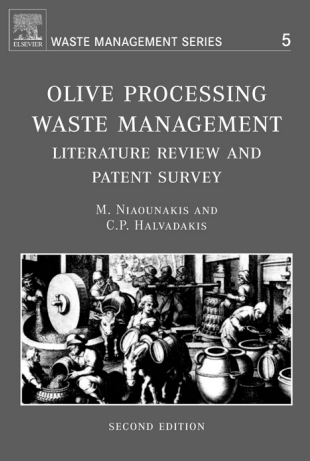
Part II. Treatment Processes. 5. Physical Processes. Dilution. Sedimentation/Settling. Flotation. Centrifugation. Filtration. Membrane technology (microfiltration, ultrafiltration, nanofiltration and reverse osmosis). 6. Thermal Processes. Physico-thermal processes. Irreversible thermo-chemical processes. 7. Physico-Chemical Processes. Neutralization. Precipitation/Flocculation. Adsorption. Chemical oxidation processes. Ion exchange. 8. Biological Processes. Anaerobic processes. Aerobic processes. Aerobic-anaerobic processes. Composting. Phytoremediation (Wetlands). Irrigation of agricultural land/Land spreading. 9. Combined and Miscellaneous Processes.

Part III. Utilization. 10. Uses. Use as fertilizer/ soil conditioner. Use as herbicide/pesticide. Use in animal feeding and human consumption. Recovery of residual oil. Recovery of organic compounds. Production of various products. Miscellaneous.

Part IV. Table Olives. 11. Table Olives. Introduction. Characterization of table olive processing wastes. Effect of table olive processing. Environmental effects. Physical processes. Thermal processes. Chemo-physical processes. Biological processes. Combined and miscellaneous processes. Uses.

Part V. Economical and Legislative Overview. 12. Economic Evaluation. 13. Legislative Aspects and Environmental Policies. EU policies. The case of Italy. Proposals. Supplement.

Appendix. Major EU Research Projects. Databases. International Organizations. National Associations/Institutions/Research Laboratories. Bibliography. Glossary. Index. List of Authors. Patents.



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