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NINTH SYMPOSIUM

In Vino Analytica Scientia 2015

Analytical Chemistry for Wine, Brandy and Spirits

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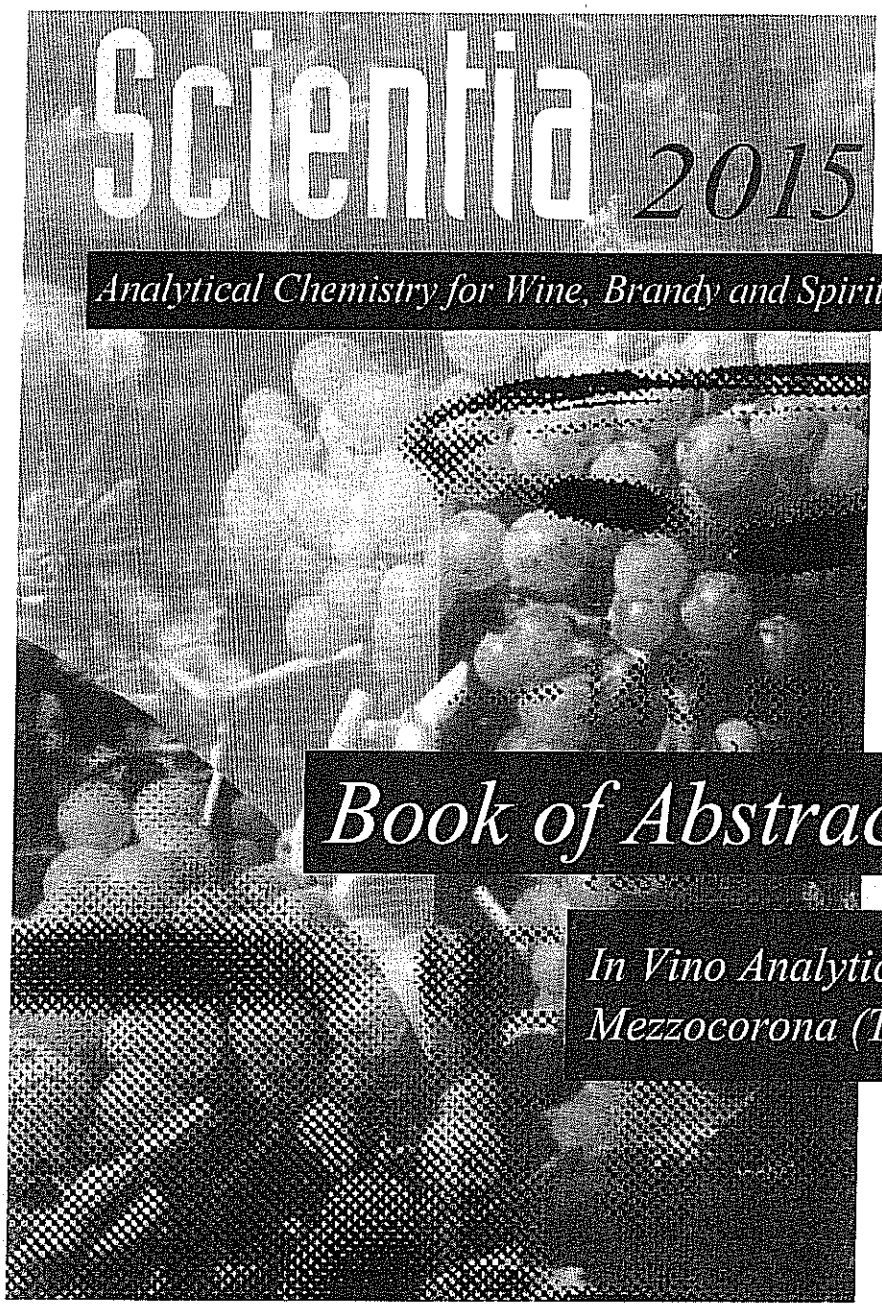

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IETCA 13 - Modelling of the impact of bentonite treatment on 'Muscat blanc' must before f 'prise de mousse' in the production of Asti DOCG aromatic sweet sparkling wine

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STRACT - The presence of terpenes in grape juices and wines is an enormous potential to enhance the ietal characteristics of wines, which contributes to a final product with increased fruit-like flavours.In the e of aromatic white wines, protein stability and the presence of intense, fine aromas are two important uirements [1]. The removal of aromatic compounds during wine fining has long been a matter of debate. earchers [2] suggested the use of bentonite as a clarifying agent during juice settling, since the volatile letion is not as drastic as it is in wine, but others observed that bentonite addition before fermentation causes our loss [3]. Therefore, the role of bentonite added to settling juices from aromatic grapes is still unclear ecially when Ca-bentonites are considered.

s study focuses on the impact of one Na-bentonite and one Ca-bentonite for the clarification of 'Muscat c' must before 'prise de mousse'. The clays were used both individually and mixed together at amounts ing from 10-100 g hL^{-1} as modelled by Central Composite Design. The heat-stability of colloidal matter, oncentration of total proteins and the content of the free- and glycosylated-terpenols of treated and control oles were assessed through O.I.V. methods, HS-SPME-GC-MS techniques, and UPLC-MS approaches.

esults showed that the significant effect on the protein reduction was operated by 10 and 100 g hL^{-1} of 100% Na-bentonite and by 55 and 100 g hL^{-1} of the mixture at 50% of both clays. The heat unstable colloidal matter as highly reduced by the mixtures in which Na-bentonite was higher than 85 % and by pure Ca-bentonite at 5 and 100 g hL^{-1}. The free-terpenols and β-damascenone were depleted by low amounts of Ca-bentonite, hilst they were not significantly affected by Na-bentonite even at high doses.

inally, the impact on the glycosylated forms of linalool, nerol, and geraniol was negligible irrespective of the entonite type and its dose. These outcomes allowed at validating the effects of a clarifying agent usually pplied for grape juice settling and wine fining in order to achieve findings that are partially unknown specially when the aromatic grapes are considered.

EFERENCES

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