CONCORSO PUBBLICO, PER ESAMI, A N. 1 POSTO DI CATEGORIA D, POSIZIONE ECONOMICA D1, AREA TECNICA, TECNICO-SCIENTIFICA ED ELABORAZIONE DATI, PER LE ESIGENZE DEL DIPARTIMENTO DI AGRARIA DELL'UNIVERSITA' DEGLI STUDI DI NAPOLI FEDERICO II ED IN PARTICOLARE DEL CORSO DI LAUREA IN VITICOLTURA ED ENOLOGIA (COD. RIF. 2021) INDETTO CON DECRETO DEL DIRETTORE GENERALE N. 439 DEL 30.06.2020 E DEL QUALE E' STATO DATO AVVISO SULLA GAZZETTA UFFICIALE IV SERIE SPECIALE – CONCORSI ED ESAMI N. 53 DEL 10.07.2020

QUESITI NON ESTRATTI ALLA PROVA ORALE DEL 16 SETTEMBRE 2020 SUDDIVISI PER SCHEDE NON SORTEGGIATE

1. Procedure da effettuare prima dell'imbottigliamento per garantire la longevità al vino rosso affinato in botte per due anni.

2. Analisi di base da effettuare sulle uve al momento della raccolta.

3. Gestione dell'inoculo di lieviti durante la vinificazione: possibili differenze tra la vinificazione in bianco e in rosso.

4. Effetto del PH sui metaboliti delle uve a bacca nera responsabili del colore dei vini rossi.

5. Individuazione delle differenze significative tra campioni sperimentali mediante excel.

Testo in lingua inglese:

4.

"Abstract. The use of plant-derived proteins as wine fining agent has gained increased interest owing to thepotential allergenicity of anima! proteìns in susceptible subjects. Patatin P is the name of a family of g!ycoproteins that can berecovered frompotato aqueousby-product. In this study, a comparative fining trial simulatìng industria! procedures with IO, 20 and 30 g/hl, of cornrnercial preparations of patatin, potassium caseinate, gelatin and egg albumin on an

Aglianico *(Vitis vinifera* L.) red wine was performed, Color indexes and phenolics were analyzed by spectrophoto-rnetric methods and HPLC. The potential astringency has been evaluated byan index based on the ability of wine to precìpitate salivary proteins (SPI, Saliva Precipitation Index), Patatin is a suitable alternative to animal proteins used as fining agent because; (i) a decrease in total phen-olics and tannìns after the treatments with I O, 20 and 30 g/hL ofcommercial preparation containing P was detected; (i i) Patatin, as well as al! the fining agents used in this experiment, is able to diminish astringency and the content of red wine phenolics able to react with salivary proteins,

Considering all concentrations tested, the effectiveness in reducìng proteins reactive towards wine polyphenols was patatin =gel~tine > egg albumin > casei n *(p* < 0.05); (iii) at each concentration oonsidered, the treatrnent withpatatin
causes no depletìon of chromatic characteristics of red wine although a signìficant slight 105s of individuai anthocyanìns was observed.

Introduction

Many food proteins can actas antigens in sensitive subjects
provoking allergenic reactions, Among thern egg, gluten, rnilk, fish, crustacean shellfish, soy and nuts are the most comrnon".

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1. Controlli da effettuare alla raccolta delle uve prima di procedere alla loro lavorazione per la possibile produzione di un vino a basso contenuto di solfiti

2. Gestione del nutrimento azotato durante la preparazione del vino base spumante.

3. Ruolo delle diverse forme dell'anidride solforosa nella stabilità dei vini.

4. metodi di analisi dei pigmenti dei vini rossi.

5. Creazione di rette di calibrazione per la quantificazione di metaboliti su excel.

Testo in lingua inglese:

1. Introduction

Over the past years, the scientific community has long argued as to whether wine, and especiallyred wine, is to be regardedas beneficial or detrimental to human health. The debate isstill open, but there is a growing body of experimental and clinical evidence that a moderate consumption of wine can have healthy effects. Wine chernical cornposition includes a vast selection of compounds that, elther as such Or synergistically with ethanol, are held responsible forred wine antioxidant,anti-inflammatory cardio- and cyto-protective properties. Accordtngly, rnany clinicians, on the basis of in vitro, in vivo and epidemiological studies, contend that moderate wine assumption reduces the cardiovascular risk (Hnseeb, Alcxander, 8< Baranchuk, :2017) and is benefici al in important pathologies such diabetes, osteoporosis and perhaps neurological diseases as well (Artero, Artcro, Tarin, & Clno, 2(15). These biological properties of red wine have been so far ascribed to its high content of polyphenols, a large farnily ofcornpounds commonly divided Into two groups: flavonoids and non-flavonoids. Flavonoids constituting up to 85 ofthe red wine polyphenols include flavones, anthocyanins andfalvonols, among which quercetin is the most abundant. The non-flavonoid family includes hydroxycinnamic acids, hydroxybenzoic acids and stilbenes such as resveratrol. Scientific studies aimed at ascertaining the benefici al effects of red wine have been focused essentiallyon quercetin and resveratrol. Quercetin is an effective free radical scavenger and prevents systernic inflammation Additionally, itseems to inhibit

plateletaggregation involvèd inatherosclèrosis processes (Gresele Cl al., 2(11). The bioactivity spectrum of resveratrolis quite wide ranging from anti-inflarnmatory effects to cardio-, néurovand cherno-preventive properties (Browu cl al., 2()()9). Nonetheless, the oral bioa-vailability of resveratrol, like thar of polyphenols in generai, is quite low, albeit itseems to be high enough to exert an efficient antioxidant activity (Srockley, Tcissedre, 80.1"111. Di Lorenzo. & Restnn]. 20J 2). It is reasonable hypothesiaing that the entire profile of potential bioactive cornpounds in. wine extends far beyond polyphenols; but, this hypothesis can be verified only by a systematic phytochernical analysis that has not been conducted yet. Therefore, with the purpose of contributing
to fili theknowledge gap on such an issue relevant to both consurners and wine producers, we analyzed samples of red wine obtained from *Vitis vinifera* Lo cv Aglianico grapes harvested in theauturnn of 2017. This is the most important blackgrape variety of Southern. Italy used to produce renowned red wines awarded the DOCG designation (De-: nominazione di *Origine Controllata* e *Garantita),* the national highestwiné classificarion, Our investigation was carried following anexperimental procedure based on chromatography and untargeted NMR spectro-*scopy.* Chromatographic separations were in strumentai forfractioning the severalclasses ofmetabolites in a complex organic rnatrix like wine and.jf nccessary, purifying thern for their.structural elucidation. To this aim,the untargeted NMR analysis, unlike any other targeted approach focused on the detection of specific compounds of interest, was selected on account of its suitability to allow a comprehensive chemical iden-tification of analytes from both a qualitative and quantitative point of…

Per ordine del Presidente
Il segretario
f.to Nicola Gianniello