42nd WORLD CONGRESS OF VINE & WINE

BOOK OF ABSTRACTS

42nd Congress of Vine and Wine
17th General Assembly of the OIV

15th-19th July 2019, CICG, Geneva, Switzerland

BOOK OF ABSTRACTS
RESÚMENES DE COMUNICACIONES
RÉSUMÉS DES COMMUNICATIONS
ZUSAMMENFASSUNGEN DER BEITRÄGE
RIASSUNTI DELLE COMUNICAZIONI

42st WORLD CONGRESS OF VINE AND WINE
17th GENERAL ASSEMBLY OF THE OIV
JULY 15th – 19rd 20198 – GENEVA - SWITZERLAND
"PRESERVATION AND INNOVATION: EXPECTATIONS AT THE ENVIRONMENTAL, ECONOMIC AND SOCIAL LEVEL"

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17ª ASAMBLEA GENERAL DE LA OIV
15 - 19 DE JULIO DE 2019 - GINEBRA - SUIZA
"PRESERVAR E INNOVAR: EXPECTATIVAS MEDIOAMBIENTALES, ECONÓMICAS Y SOCIALES"

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« PRESERVER ET INNOVER: ATTENTES ENVIRONNEMENTALES, ECONOMIQUES ET SOCIALES »

42. WELTKONGRESS FÜR REBE UND WEIN
17. GENERALVERSAMMLUNG DER OIV
15. - 19. JULI 2019 - GENF - SCHWEIZ
„ERHALT UND INNOVATION: ÖKOLOGISCHE, WIRTSCHAFTLICHE UND SOZIALE ERWARTUNGEN"

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"PRESERVARE E INNOVARE: ASPETTATIVE AMBIENTALI, ECONOMICHE E SOCIALI"

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Los señales de alerta visual utilizan LEDs, los mensajes son personalizados utilizando la plataforma IoT. Por lo que, el nuevo sistema de colores, le permitirá realizar una evaluación rápida del proceso de fermentación con solo observar el sensor sin la necesidad de analizar los datos.
A continuación serán presentados diversos perfiles de fermentación de vino tinto y blanco monitorizados con el sistema WP1110.

PO-262: EVALUATION OF THE EFFICACY OF POWER ULTRASOUNDS ON THE PREFERMENTATIVE EXTRACTION IN WHITE GRAPES

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The application of power ultrasounds (US) is a recent hotspot in applied enology and their utilisation has been successfully proposed for many winemaking practises: during skin contact fermentation or ageing steps in red winemaking, in the sanitation of vessels, and increasing the yield in filtration and polysaccharide extraction from yeast lees. However, their use in white winemaking as an extraction-aiding technology during prefermentative operations is still scarcely explored. Diversely to red winemaking, a prefermentative skin contact maceration foresees a lesser contact time due to the high risk of microbial spoilage, thus limiting potential extraction from skins of wine beneficial compounds.
The present work was aimed to study the application on grapes of US at lab scale for the evaluation of their potentiality as an aiding technology for the prefermentative extraction. For this, grape samples were firstly characterised by their mechanical features (thickness, compression and force) and treated for 3' and 5' with US (frequency: 20 kHz, wave amplitude: 153 µm). Grapes were then pressed at standardized conditions and sampled for analysis. The evaluation of the efficacy of the treatment was performed on conductivity, hydroxicinamatetartaric acids, total polyphenols or catechins, used as indicators of skin extraction. Results determined by both treatments were differentiated from the untreated control, showing the effectiveness of the US treatment. Further research is however needed in order set up properly the treatment at industrial conditions, also based on the characteristics of grapes.

VALUTAZIONE DELL'EFFICACIA DEGLI ULTRASUONI SULL'ESTRAZIONE PREFERMENTATIVA IN UVE BIANCHE

L'applicazione degli ultrasuoni è una recente area d'interesse in enologia applicata e il loro utilizzo è stato proposto con successo per molte pratiche di vinificazione: durante la macerazione fermentativa o nelle fasi di affinamento nella vinificazione in rosso, nella sanificazione dei vasi vinari, e per l'aumento della resa in filtrazione e nell'estrazione dei polisaccaridi dalla feccia di lievito. Tuttavia, il loro utilizzo nella vinificazione in bianco come tecnologia di aiuto all'estrazione durante le operazioni prefermentative è ancora poco esplorato. Diversamente dalla vinificazione in rosso, una macerazione prefermentativa prevede un tempo di contatto più breve a causa dell'elevato rischio di deterioramento microbico, limitando così la potenziale estrazione dalle bucce di composti positivi per il vino.
Il presente lavoro ha come obiettivo studiare l'applicazione su uve degli US su scala di laboratorio per la valutazione della loro potenzialità come tecnologia in fase prefermentativa. Per questo, i campioni di uva sono stati prima di tutto caratterizzati da caratteristiche meccaniche (spessore, compressione e forza) e trattati per 3' e 5' con US (frequenza: 20 kHz, ampiezza d'onda: 153 µm). Le uve sono state pressate a condizioni standardizzate e campionate per l'analisi. La valutazione dell'efficacia del trattamento è stata effettuata sulla base della conducibilità, della concentrazione di acidi idrossicinamatartarici, polifenoli totali e le catechine, utilizzati come indicatori di estrazione dalla buccia. I risultati determinati da entrambi i trattamenti sono stati differenziati dal controllo non trattato, dimostrando l'efficacia del trattamento con US. Ulteriori ricerche sono comunque necessarie per impostare correttamente il trattamento a condizioni industriali, anche in base alle caratteristiche dell'uva.

EVALUACIÓN DE LA EFICACIA DE LOS ULTRASONIDOS EN LA EXTRACCIÓN PRE-FERMENTATIVA DE LA UVA BLANCA

La aplicación de ultrasonidos es un área reciente de interés en enología aplicada y su uso ha sido propuesto con éxito para muchas prácticas enológicas: durante la maceración fermentativa o en las etapas de envejecimiento en la elaboración de vinos tintos, en la higienización de tarros de vino, y para aumentar el rendimiento en la filtración y extracción de polisacáridos de las lias. Sin embargo, su uso en la elaboración de vino blanco como tecnología de ayuda a la extracción durante las operaciones pre-fermentativas es todavía poco explorado. A diferencia de la vinificación en tinto, la maceración pre-

fermentativa implica un tiempo de contacto más corto debido al alto riesgo de deterioro microbiano, limitando así la extracción potencial de los hollejos de compuestos positivos para el vino.
El presente trabajo tiene como objetivo estudiar la aplicación de US en uva a escala de laboratorio para la evaluación de su potencial como tecnología en fase pre-fermentativa. Por esta razón, las muestras de uva fueron inicialemente caracterizadas desde un punto de vista mecánico (espesor, compresión y resistencia) y posteriormente tratadas durante 3' y 5' con US (frecuencia: 20 kHz, ancho de onda: 153 µm). Las uvas fueron prensadas en condiciones estándar y se tomaron muestras del mosto obtenido para su análisis. La evaluación de la eficacia del tratamiento se realizó en base a la conductividad, a la concentración de ácidos hidroxicinamatartáricos, de polifenoles totales y de catequinas, utilizados como indicadores de extracción de la piel. Los resultados determinados por ambos tratamientos fueron diferenciados del control no tratado, demostrando la efectividad del tratamiento con US. Sin embargo, es necesaria mayor investigación para establecer correctamente las condiciones del tratamiento a nivel industrial, teniendo en cuenta las características de las uvas.

PO-263: STUDY OF THE POTENTIAL IMPACT OF DIFFERENT FINING AGENTS TO MODIFY THE COLOR AND POLYPHENOLIC COMPOSITION OF THE URUGUAYAN TANNAT RED WINES

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Wine limpidity is progressively obtained after winemaking due to physical and chemical phenomena that determine the precipitation of unstable compounds and the sedimentation of the clouding particles. Fining using different agents can reach a better limpidity in less time and may improve the stability of the wines. Additionally, fining agents can determine some decrease in astringency and bitterness of wine due to its interaction with tannins. Nevertheless, the interactions between fining agents and polyphenols can affect color of red wines due to the precipitation of pigments. The aim of this work was to evaluate the effect of different fining agents on the properties of Tannat red wines from Uruguay. The trial was made on five Tannat wines, after two months of winemaking. The essays were made in different vintages, comparing the effect of bentonite, egg albumin, gelatin and a vegetal protein-based formulation. Egg albumin was added as fresh egg whites while vegetal proteins were gluten proteins. The doses employed of each fining agent are the usually used in wineries. In each case, the doses were 50 g/HL for bentonite, 15 g/HL for gelatine, 15 g/HL for vegetable protein, and 10 egg whites/HL for egg albumin. Wines were divided into aliquots to obtain homogeneous batches for the experiment. The wines were kept in contact with the fining agents for 15 days, and then they were separated from the sediments and bottled. A control wine without additive was bottled at the same time. Wine analyses were performed immediately after clarification. The effects of fining on wine limpidity, composition and color were evaluated. All fining treatments significantly increased the limpidity of wines. Wine color's was affected by all the fining agents in most of the wines. The main effects were due to the bentonite and the egg albumin, which decreased the color intensity and increased the brightness of all the wines. In general, decreases in color intensity were accompanied by hue increases in clarified wines in relation to control wines. The use of gluten proteins determined the lowest decline in the color intensity and small differences in CIELAB attributes in relation to control wines. Total polyphenol contents were diminished mainly by egg albumin. Bentonite reduced anthocyanin levels but with different impact in each wine. The anthocyanin profiles of the wines showed slightly differences between them, but the proportions of each type of molecule found in each one correspond to the typical values reported for Tannat wines. The content and composition of tannins of wines were significantly modified by fining. Gelatin had the main effect on catechin levels while all protein agents decreased proanthocyanidins concentration. The different fining agents modified the polymerization of tannins in different way according to the wine. Clarification can have an important impact on the characteristics of red wines, but this effect depends on the fining agent employed and the composition of the wine. Each agent has a different influence on the color of the wine due to the diverse impact on the polyphenolic composition. In turn, wine's composition conditions the effects of the clarification on its sensory properties. The fining agent must be chosen according to the characteristics of the wine and the modifications sought to improve its quality.

ESTUDIO DEL IMPACTO POTENCIAL DE DIFERENTES AGENTES CLARIFICANTES SOBRE EL COLOR Y LA COMPOSICIÓN FENÓLICA DE LOS VINOS TINTOS TANNAT DE URUGUAY

La limpidez del vino se obtiene paulatinamente después de la vinificación debido a fenómenos físicos y químicos que determinan la precipitación de compuestos inestables y la sedimentación de las partículas que enturbian. El uso de diferentes agentes puede lograr una mejor limpidez en menos tiempo y puede mejorar la estabilidad de los vinos. Además, los agentes clarificadores pueden determinar cierta disminución en la astringencia y amargor del vino debido a su interacción con los taninos. Sin embargo, las interacciones entre los agentes clarificantes y los polifenoles pueden afectar el color de los vinos