

**EUROMEMBRANE**  
**2009** September 6-10, 2009  
Montpellier - France



# EUROMEMBRANE 2009

*The EMS Conference*  
September 6-10, 2009  
Montpellier - France  
Le Corum - Palais des Congrès

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#### PF.6.15

### Influence of some chemical additives and ultrafiltration operating conditions on purification characteristics and permeate flux of thin sugar beet juice

R. Niazmand<sup>1</sup>, M. Shahidi<sup>2</sup>, S.M.A. Razavi<sup>2</sup>

<sup>1</sup>Islamic Azad University, Damghan branch, Iran

<sup>2</sup>Ferdowsi University of Mashhad, Department of Food Science & Technology, Mashhad, Iran

S.Razavi@UM.ac.ir

The main objective in sugar industry is to remove the colorants and other non-sucrose compounds in order to obtain thin sugar juice with high purity and quality. In this study, the effect of two chemical additives (ammonium sulphate and polyethyleneglycol) and UF operating conditions including pressure (2, 3 and 4 bar) and temperature (30, 40 and 50°C) on color, turbidity, CaO content, soluble solids, purity percentage and permeate flux of thin sugar beet juice were investigated. All experiments were performed using a dead-end stirred ultrafiltration cell and a polyethersulphone (PES) membrane with MWCO 5 kD. Absorbance spectra of thin sugar beet juice and permeate in 420 and 720 nm showed a greater degree of decolorization by PES membrane, especially when the ammonium sulphate was added. The membrane did not exhibit any appreciable selectivity towards CaO content. Chemical additives reduced purity percentage as well as permeate flux. However, increasing pressure and temperature resulted in higher permeate flux.

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#### PF.6.16

### Sugar reduction by nanofiltration of white musts prior to vinification

N. García-Martín<sup>1,2</sup>, L. Palacio<sup>1,2</sup>, P. Prádanos<sup>1,2</sup>, A. Hernández<sup>1,2</sup>, M. Ortega-Heras<sup>3</sup>, S. Pérez-Magariño<sup>3</sup>, D.C. González-Huerta<sup>3</sup>, M.L. González-San José<sup>4</sup>, M. Mihnea<sup>4</sup>

<sup>1</sup>Depto. de Termodinámica y Física Aplicada, Fac. de Ciencias, Universidad de Valladolid, Real de Burgos s/n, Valladolid 47071, Spain

<sup>2</sup>Surface and Porous Materials (SMAP), UA-CSIC-UVA, R&D Building, Campus Miguel Delibes, Valladolid 47071, Spain.

<sup>3</sup>Estación Enológica de Castilla y León, ITACYL, C/ Cristo 20, Rueda 47490, Spain.

<sup>4</sup>Tecnología de Alimentos, Facultad de Ciencias, Universidad de Burgos, Pza. Misael Bañuelos s/n, Burgos 09001, Spain.

nogama@termo.uva.es

membrana@termo.uva.es

Last years have been warmer and dryer than usually. This has been attributed to the climate change induced by global warming. As a consequence of that, an early ripening of the grapes takes place which increases sugar content. This finally leads to alcoholic degrees higher than desired and associated to specially appreciated and characteristic wines. One of the mild and highly specific technologies that could be used to reduce the undesired high degree in wine, involves the use of nanofiltration membranes.