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### **The influence of bioprocessing of grape pomace by *Rhizopus oryzae* on the chemical composition and extractability of phenolic compounds**

Gordana Šelo, Mirela Planinić, Marina Tišma, Ana Bucić-Kojić

Faculty of Food Technology, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia



Biological treatment of grape pomace (variety Frankovka) by *R. oryzae* was carried out in laboratory jars and a tray bioreactor under solid-state fermentation (SSF) conditions. The aim of the work was to investigate the influence of SSF on chemical composition with the special focus on the recovery of phenolic compounds from grape pomace. *R. oryzae* transformed grape pomace causing the weight loss by 17.58 % after 15 days-treatment in laboratory jars. The content of ash, protein, sugars, and certain elements (P, K, Fe, Pb, As) decreased, while the content of lignocellulosic components (cellulose, hemicellulose, lignin) and fats increased during the 15-days treatment in laboratory jars and a tray bioreactor.

The content of total phenolic compounds, total flavonoids and total extractable proanthocyanidins decreased by 47 %, 43 % and 62 % in the laboratory jars and 34 %, 21 % and 42 % in the tray bioreactor after 15 days of fermentation. Biological treatment with *R. oryzae* had a positive effect on the extractability of 10 of the 21 individual phenolic compounds quantified by the UHPLC method. The content of gallic acid, ellagic acid, *p*-hydroxybenzoic acid, syringic acid, vanillic acid, 3,4-dihydroxybenzoic acid, *p*-coumaric acid, epicatechin gallate, quercetin, and resveratrol increased 1.1- to 2.5-fold.