

## THE INFLUENCE OF WHITE AND RED GRAPE MARC EXTRACTS ON THE ROOTING OF SANSEVIERIA TRIFASCIATA

Maria APOSTOL<sup>1</sup>, ORCID ID: 0000-0002-0854-7735

Mihai-Marius BĂETU<sup>2</sup>, ORCID ID: 0000-0001-5343-5401

Vasile Răzvan FILIMON<sup>3</sup>, ORCID ID: 0000-0003-4039-3091

Antoanela PATRAȘ<sup>4\*</sup>, ORCID ID: 0000-0002-4054-4884

<sup>1</sup>“Ion Ionescu de la Brad” University of Life Sciences, Department of Horticultural Technologies, Iasi, Romania

<sup>2</sup>“Ion Ionescu de la Brad” University of Life Sciences, (IULS), Department of Food Technologies, Iași, România

<sup>3</sup>Research Development Station for Viticulture and Winemaking Iasi, Department of Winemaking, Iasi, Romania

<sup>4</sup>“Ion Ionescu de la Brad” Iasi University of Life Sciences, Department of Sciences, Iasi, Romania

\*Corresponding author: Antoanela Patraș, email antoanelapatras@gmail.com

**Introduction.** Wine production generates huge amounts of grape marc which could be various valorized. Due to the bioactive compounds in the composition of grape marc, it is used in food, pharmaceutical and cosmetic industries. At the moment, the recovery of winemaking wastes is an important objective for the management of agro-industrial waste, and the present study tested another way to valorize the grape marc. The aim of the experiment was to evaluate the effect of white and red grape marc on the rooting of leaf cuttings from the specie *Sansevieria trifasciata*.

**Material and methods.** The studies were conducted on the Horticultural Research Centre of The Faculty of Horticulture within Iasi University of Life Sciences, Romania. The biological material consisted of leaf cutting of *Sansevieria trifasciata*, purchased from a firm specialized in the production of ornamental plants. The rooting of *Sansevieria trifasciata* cuttings was done in perlite. This substrate was periodically humidified with distilled water for the control variant and with different concentrations (from 0.025% to 0.2%) of Sauvignon Blanc (SB) and Merlot (M) grape marc aqueous extracts for the other variants. The experiment was organized in containers and consisted of nine variants, each repetition containing ten leaf cuttings: C- control (distilled water) V1-M1, V2-M2; V3-M3, V4-M4, V5-SB1, V6-SB2, V7-SB3, V8-SB4.

**Results.** In all samples, the average number of roots on leaf cuttings and the average length of the roots had values close to the control. The highest number of roots per seedling was obtained at V5 (30) and the control variant (28). The average length of the roots varied from 3.5 cm at the control variant to 1.8 cm at the V6 variant. The biometric determinations on the average number of leaf per cutting showed a positive influence of the SB1 extract (0.025%) on the growth of new leaf from all the Sauvignon Blanc concentrations. The average percentage of leaf cuttings that formed new leaves was 50% for V5, V7 and 10% for V2 and V6. The average length of the new leaves varied from 8 cm at V5 to 3 cm at the V6 variant.

**Conclusions.** From all the studied grape marc extracts, only Sauvignon Blanc 0.025% aqueous extract proved a slight positive influence on the rooting of *Sansevieria trifasciata* cuttings.

**Keywords:** growth, leaf cuttings, Merlot grape marc, ornamental plants, Sauvignon Blanc grape marc, waste.

**Acknowledgments:** Joint Operational Programme Romania – Republic of Moldova 2014 – 2020, grant 2SOFT/1.2/83, 02.09.2020, project “Intelligent valorisation of agro-food industrial wastes” (INTELWASTES).