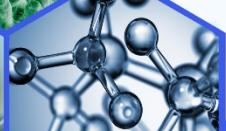
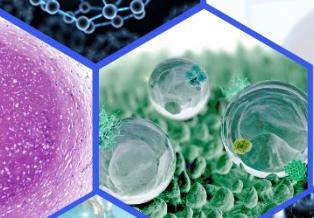
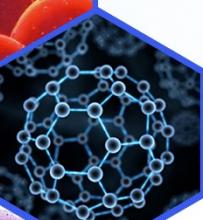


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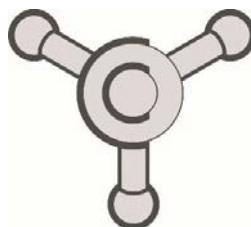
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IP02 PE 1

The antioxidant properties of tobacco waste

Marija Banožić¹, Ana-Marija Cikoš¹, Martina Jakovljević¹, Jelena Vladic²

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Tobacco contains significant concentration of phenolic compounds that are important naturally occurring antioxidants. Phenolic compounds are secondary metabolites in tobacco plant, and they have impact on quality of tobacco leaves due to their contribution to sensory properties-flavor, color, bitterness, and antioxidant properties. The aim of this work was to investigate the influence of different ultrasound extraction condition on antioxidant activity of tobacco waste extracts. Tobacco waste: fraction 1 (leaf waste and mid-rib) and fraction 2 (dust) were obtained from tobacco factory Hrvatski duhani, Virovitica.

Ultrasound-assisted extraction of tobacco waste was performed. The influence of extraction temperature (30, 50, 70 °C), time (15, 30, 45 min), ethanol: water ratio (40%, 60%, 80% v/v) and solvent-solid ratio (10, 30 and 50 mL/g) on the antioxidant activity was monitored.

Antioxidant activity was performed by DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging method, which showed that extracts with lower ethanol concentration possess better antioxidant activity. The strongest antioxidant activity showed fraction 1 extract obtained under following condition: temperature: 50 °C, time: 30 min, solvent/solid ratio: 10 mL/g and ethanol: water ratio 40% v/v.

Acknowledgment

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