

Aliona GHENDOV-MOȘANU

Dr. hab., assoc. prof., Technical University of Moldova
<https://orcid.org/0000-0001-5214-3562>
E-mail: aliona.mosanu@tpa.utm.md

Viorica BULGARU

Dr., assoc. prof., Technical University of Moldova
<https://orcid.org/0000-0002-1921-2009>
E-mail: viorica.bulgaru@tpa.utm.md

Angela GUREV

Dr., assoc. prof., Technical University of Moldova
<https://orcid.org/0000-0001-8493-5257>
E-mail: angela.gurev@chim.utm.md

Veronica DRAGANCEA

Dr., assoc. prof., Technical University of Moldova
<https://orcid.org/0000-0002-5938-0410>
E-mail: veronica.dragancea@chim.utm.md

Rodica STURZA

Dr. hab., prof., Technical University of Moldova

<https://orcid.org/0000-0002-2412-5874>

E-mail: rodica.sturza@tpa.utm.md

Chromatic properties of biopolymer-encapsulated jostaberry extract

Proprietățile cromatice ale extractului de Jostaberry încapsulat în biopolimer

The hybrid jostaberry (*Ribes* × *nidigrolaria*) constitutes a significant source of phytochemicals with pronounced antioxidant potential. The present study aimed to evaluate the CIELab color parameters of lyophilized biopolymer-based microparticles enriched with biologically active compounds derived from jostaberry. Jostaberry extract was encapsulated using biocompatible carrier systems composed of maltodextrin–nutriose–pectin (MNPJ) and maltodextrin–nutriose–sodium alginate (MNAJ). Color measurements were performed using a Konica Minolta CR-400 colorimeter (Tokyo, Japan), and the following parameters were recorded: L* (lightness), a* (red–green coordinate), b* (yellow–blue coordinate), C* (chroma), and h* (hue angle). The results demonstrated that the MNAJ formulation exhibited higher L* values compared with MNPJ, indicating greater lightness. All samples presented positive a* values, reflecting the characteristic red–purple coloration of jostaberry. The MNPJ sample displayed the highest a* value (34.98), corresponding to the lowest pH and the highest anthocyanin content, thereby indicating a more intense red coloration. Negative b* values were recorded for all samples, confirming the presence of blue tonalities typical of jostaberry. The chroma (C*) values remained relatively stable, with 7.53 for MNPJ and 6.66 for MNAJ, suggesting that both encapsulated powders retained a satisfactory degree of color saturation. The hue angle (h*) values exhibited minimal variation between formulations (35.17 for MNPJ and 34.10 for MNAJ), further confirming the predominance of red tonalities in both microparticle systems. In conclusion, the lyophilized biopolymer-based microparticles effectively preserved the characteristic red–purple coloration of jostaberry.

* **Acknowledgments:** The research was supported by Institutional Project, subprogram 020405 “Optimizing food processing technologies in the context of the circular bioeconomy and climate change”, Bio-OpTehPAS, being implemented at the Technical University of Moldova.