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INOPTEP 2023**

and

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COLOR CHARACTERISTICS OF TRADITIONALLY PROCESSED RED PAPRIKA POWDERS AND DRY-FERMENTED SAUSAGES

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The most famous traditional dry-fermented sausages from the northwestern part of Serbia are *Lemeški kulen* and *Petrovačka kobasica*. *Lemeška paprika* (sweet) and *Petrovačka paprika* (hot), in a form of a dry powder, are used abundantly in their production process, respectively. Due to this fact, the first goal of this study was to examine the quality characteristics of *Lemeška* and *Petrovačka paprika* powders, produced out of pepper fruits grown in different areas of Bačka region. The paprika powders were produced and analyzed throughout five production seasons. Moisture content, ash, acid-insoluble ash, ether extract content, capsanthin concentration, i.e. ASTA value, and capsaicin content were determined. There were no significant differences ($P > 0.05$) in moisture, ash, acid-insoluble ash, as well as ether extract content between *Lemeška* and *Petrovačka paprika*. On the contrary, significant differences ($P < 0.05$) between ASTA values, capsanthin, and capsaicin content were noticed. The average ASTA values for *Lemeška* and *Petrovačka paprika* were 210 and 131, respectively, fulfilling the requirements for categorization as best-quality sweet and hot paprika regarding coloring potential, according to Serbian legislation. The typical rich red color, which is one of the main characteristics of both aforementioned traditional dry-fermented sausages, mostly originates from the addition of red paprika powder. In order to see how the addition of different quality red paprika powders influences the color of dry-fermented sausages, the color of the *Lemeški kulen* and *Petrovačka kobasica* was determined by measuring CIE L^* , a^* , b^* color characteristics. Furthermore, the moisture and fat content of both dry-fermented sausages were determined in order to help with interpretation of results related to color. Sample sausages have also been collected and analyzed throughout five production seasons. Significant differences between the investigated dry-fermented sausages have only been noticed in L^* value. Overall results of this study confirm that the addition of high-quality red paprika powder had a significant positive effect on the formation of the typical red color of *Lemeški kulen* and *Petrovačka kobasica*.

Key words: dry-fermented sausages, red paprika powder, color characteristics

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KARAKTERISTIKE BOJE TRADICIONALNE CRVENE ZAČINSKE PAPRIKE I FERMENTISANIH SUVIH KOBASICA

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Lemeški kulen i *Petrovačka kobasica* predstavljaju najpoznatije tradicionalne fermentisane suve kobasice iz severozapadnog dela Srbije. Tokom njihovog procesa proizvodnje obilato se koristi *Lemeška paprika* (slatka), odnosno *Petrovačka paprika* (ljuta), u formi suvog praha, redom. Upravo zbog toga, prvi cilj ovog istraživanja bio je ispitivanje kvalitativnih karakteristika *Lemeške* i *Petrovačke paprike*, koje su proizvedene od plodova paprika gajenih u različitim krajevima Bačke. Ispitivana crvena mlevena začinska paprika je proizvedena, uzorkovana i analizirana tokom pet proizvodnih sezona. Vršeno je određivanje sadržaja vlage, pepela, pepela nerastvornog u HCl (pesak), etarskog ekstrakta, koncentracije kapsantina, odnosno ASTA vrednost, kao i koncentracije kapsaicina. Utvrđene razlike u sadržaju vlage, pepela, peska, kao i etarskog ekstrakta između *Lemeške* i *Petrovačke paprike* nisu bile statistički značajne ($P > 0.05$). Nasuprot tome, statistički značajna razlika ($P < 0.05$) primećena je između ASTA vrednosti, koncentracije kapsantina kao i kapsaicina. Prosečne ASTA vrednosti za *Lemešku* i *Petrovačku* papriku iznosile su 210 i 131, redom, čime su prema srpskoj regulativi bili ispunjeni uslovi za svrstavanje ovih uzoraka paprike u najviše kategorije prema kvalitetu slatke i ljute paprike. Jedna od glavnih karakteristika prethodno pomenutih tradicionalnih fermentisanih suvih kobasica je njihova intezivna crvena boja, koja ponajviše potiče od dodate mlevene začinske paprike. Kako bi se odredio uticaj mlevene začinske paprike različitog kvaliteta na boju tradicionalnih fermentisanih kobasica, boja *Lemeškog kulena* i *Petrovačke kobasice* određena je prema CIE L^* , a^* , b^* sistemu. Pored toga, sadržaj vlage i masti u obe fermentisane kobasice je takođe analiziran kako bi se interpretirali rezultati boje. Uzorci kobasica su takođe prikupljeni i analizirani tokom pet proizvodnih sezona. Statistički značajna razlika ($P < 0.05$) između prethodno navedenih suvih fermentisanih kobasica primećena je jedino za L^* vrednost. Na osnovu svih rezultata ove studije može se zaključiti da dodatak visoko kvalitetne mlevene začinske paprike ima značajan pozitivan uticaj na formiranje tipične crvene boje *Lemeškog kulena* i *Petrovačke kobasice*.

Ključne reči: fermentisane suve kobasice, mlevena začinska paprika, karakteristike boje

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