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



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### INTRODUCTION

- Lemeški kulen* and *Petrovačka kobasica* are the most famous traditional dry-fermented sausages from the northwestern part of Serbia. In their production process, *Lemeška paprika powder* (sweet) and *Petrovačka paprika powder* (hot) are used, respectively.
- 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.

### MATERIAL AND METHOD

- Ten samples of *Lemeška paprika* (LP) and *Petrovačka paprika* (PP), as well as ten samples of *Lemeški kulen* (LS) and *Petrovačka kobasica* (PS) have been collected throughout 5 production seasons, and consecutively analyzed.
- Quality characteristics of *Lemeška* and *Petrovačka paprika* powders were examined by determining moisture content, ash, acid-insoluble ash, ether extract content, capsanthin concentration, i.e. ASTA value, and capsaicin content.
- The color of the *Lemeški kulen* and *Petrovačka kobasica* was determined by measuring CIE L\*, a\*, b\* color characteristics, and moisture and fat content were quantified according to recommended standards ISO 1442 (1997) and ISO 1443 (1973)

### DISCUSSION

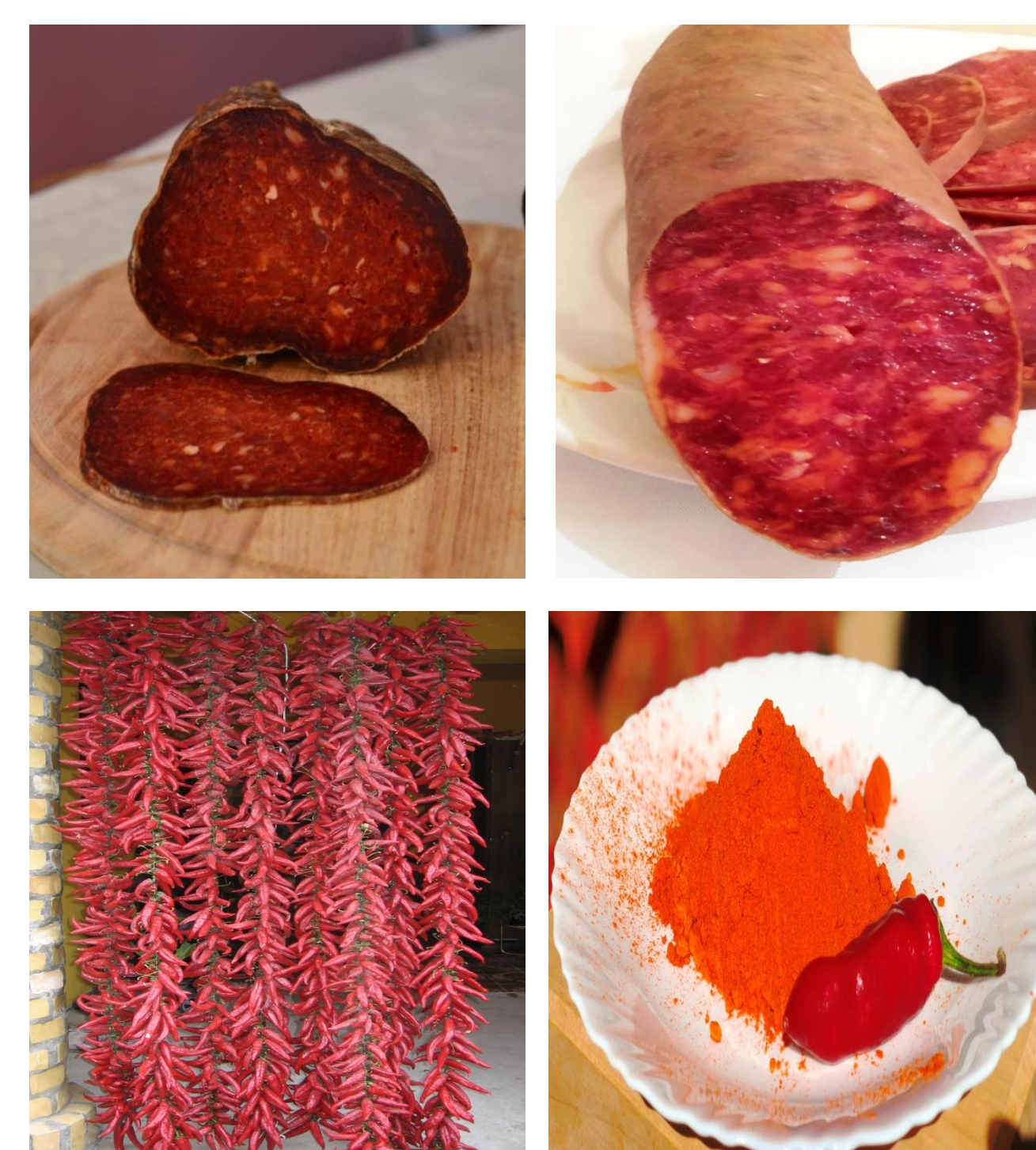
- There were no significant differences ( $P > 0.05$ ) in moisture, ash, acid-insoluble ash, as well as ether extract content between LP and PP. On the contrary, significant differences ( $P < 0.05$ ) between ASTA values, capsanthin, and capsaicin content were noticed.
- Both traditional dry-fermented sausages were within the required values, for this type of meat product, regarding moisture content.
- Fat content in LS (21.6%) was significantly lower in comparison to PS (38.2%), due to different formulation of raw sausage mixture, and the level of dehydration.
- Significant difference was only noticed for the L\* value of observed dry-fermented sausages, due to differences in formulations and characteristics of the production process.

	Moisture content (%)	Ash (%)	Acid-insoluble ash (%)	Ether extract content (%)	ASTA	Capsanthin (g/kg DM)	Capsaicin (%)
LP	5.83 ± 1.69	7.16 ± 1.09	0.02 ± 0.01	12.5 ± 1.41	210 ± 34.05 <sup>a</sup>	5.70 ± 0.92 <sup>a</sup>	0.002 ± 0.00 <sup>a</sup>
PP	6.20 ± 0.82	6.87 ± 0.98	0.04 ± 0.02	13.4 ± 0.53	131 ± 11.47 <sup>b</sup>	3.57 ± 0.31 <sup>b</sup>	0.04 ± 0.03 <sup>b</sup>

**Table 1.** Chemical analysis of *Lemeška paprika* (LP) and *Petrovačka paprika* (PP)

	Moisture content (%)	Fat content (%)	L*	a*	b*
LS	33.2 ± 3.86 <sup>a</sup>	21.6 ± 4.81 <sup>a</sup>	31.0 ± 1.85 <sup>a</sup>	22.5 ± 1.19	17.2 ± 2.42
PS	21.7 ± 2.33 <sup>b</sup>	38.2 ± 3.29 <sup>b</sup>	33.0 ± 0.85 <sup>b</sup>	23.7 ± 2.44	18.6 ± 1.38

**Table 2.** Moisture and fat content, and color characteristics of *Lemeški kulen* (LS) and *Petrovačka kobasica* (PS)



**Fig. 1.** Appearance of *Lemeški kulen* (left, up), *Petrovačka kobasica* (right, up), *Lemeška paprika* (left, down) and *Petrovačka paprika* (right, down)

### CONCLUSION

- The average ASTA values for *Lemeška* and *Petrovačka paprika* were 210 and 131, respectively. Based on those results, *Lemeška* and *Petrovačka paprika*, according to Serbian legislation, fulfill the requirements for categorization as best-quality sweet and hot paprika regarding coloring potential, respectively.
- 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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