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REDUCTION OF POLYCYCLIC AROMATIC HYDROCARBONS IN TRADITIONAL DRY FERMENTED SAUSAGES

***Snežana Škaljac*[1], *Marija Jokanović*[1], *Vladimir Tomović*[1], *Brankica Kartalović*[2], *Jelena Vranešević*[2], *Predrag Ikonić*[3], *Nedim Ćućević*[1], *Tatjana Peulić*[3], *Branislav Šojić*[1], *Maja Ivić*[1]**

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The aim of this study was to examine the influence of modification in traditional smoking process on the content of 16 PAH, from Environmental Protection Agency list (16 US-EPA PAH). Two groups of dry fermented sausages were prepared - T and E group. The first group of sausages was smoked in traditional conditions, i.e. fireplace was in the smokehouse and the distance between fire and samples was about 2 m (T group). The second group of sausages was smoked in experimental conditions where the fireplace was separated from the smoking chamber, and smoke was transported to it through the pipes about 1 m long (E group). Sausages smoked in traditional conditions had a significantly higher ($P<0.05$) total content of 16 US-EPA PAHs (1030.75 µg/kg), compared to the content obtained for sausages smoked in the experimental smoking chamber (73.62 µg/kg). Benzo[a]pyrene was not detected in any investigated sausage sample. On the other hand, PAH4 (sum of benz[a]anthracene, chrysene, benzo[b]fluoranthene, and benzo[a]pyrene content) was significantly higher ($P<0.05$) in sausages of T group (5.10 µg/kg) compared with sausages of E group (ND) at the end of drying period.
According to the results obtained in this study both groups of examined dry fermented sausages met the criteria prescribed by Regulations Commission of the European Union No. 835/2011 (BaP ≤ 2 µg/kg; PAH4 ≤ 12 µg/kg). Also, results of this study confirmed that modifications in traditional smoking conditions lead to significant reduction of PAH content in dry fermented sausages.

Keywords: Dry fermented sausage, PAH, BaP, Smoking conditions

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