EFFECTS OF DIFFERENT PROCESSING CONDITIONS ON VOLATILE COMPOUNDS OF SUCUK

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Abstract - In the study, the effects of starter culture (control, *Lactobacillus plantarum* GM77, *Staphylococcus xylosus* GM92 and *L. plantarum* GM77+*S. xylosus* GM92), ripening rate (slow: nitrate and initial fermentation temperature 18°C and rapid: nitrite and initial fermentation temperature 24°C), animal fat type (beef fat, sheep tail fat, beef fat + sheep tail fat) and ripening time on the volatile compounds of sucuk (Turkish dry fermented sausage) were determined. Of the sources of variation, ripening rate was effective on many compounds, while the effect of fat factor was quite limited. Use of starter culture was more effective than fat-type factor. Only starter culture was effective on 2-methyl-3-phenyl propanal, which had a significant proportion in the total area of volatile compounds. Highest average as to hexanal level was detected in slow ripening - *L. plantarum* GM77 + *S. xylosus* GM92 combination. On the other hand, acetic acid, a product of carbohydrate metabolism , was determined in slow ripening-sheep tail fat- *L. plantarum* GM77 + *S. xylosus* GM92 combination in vast amounts. Slow ripening has increased levels of diacetyl and acetoin. Among alcohols determined in sucuk, only ethanol and cumic alcohol were in significant amounts. Ethyl alcohol level was quite high in slow ripening. *L. plantarum* GM77 + *S. xylosus* GM92 culture had the highest average among starter cultures. Sheep tail fat usage with starter culture (*L. plantarum* GM77 + *S. xylosus* GM92) had significantly increased ethyl acetate level. It was determined that terpenes constitute a major part of the volatile compounds identified in sucuk.

Keywords - Sucuk, Starter culture, Ripening, Volatile compounds

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