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EFFECTS OF STARTER CULTURES ON THE FORMATION OF FLAVOUR COMPOUNDS OF FERMENTED SAUSAGES

G. Yıldız Turp*, İ. Y. Şengün

Ege University, Faculty of Engineering,
Dept of Food Engineering, İzmir, Turkey

Starter cultures have an important role in the production of high quality fermented sausage because of their effects on pH, the desired flavour development, as well as providing stability and safety. Therefore, it is important to determine which starter culture or combinations should be used. Sausage fermentation is based on enzymatic and microbial activity, in particular from lactic acid bacteria (LAB) and coagulase-negative staphylococci (CNS). Although LAB enhance the quality of fermented sausages and restrict the growth of some undesirable microorganisms, some types of LAB may cause spoilage of fermented sausages resulting slime and sour odour formation. CNS are Gram-positive, catalase-positive cocci with antioxidant activities, preventing the formation of off-flavours and rancidity. Their proteolytic and lipolytic activities contribute to the sensory quality of fermented sausages through the generation of flavour-active compounds and their precursors. Unfortunately, CNS are generally poorly competitive in a fermented sausage environment, resulting in poor growth and even a decreasing viability during manufacturing. Volatile compounds of different classifications (aldehydes, ketones, sulfur compounds, acids, esters, aliphatic hydrocarbons, aromatic hydrocarbons, alcohols and terpenes) form during the ripening of Turkish fermented sausage. This review aimed to evaluate the effects of starter cultures on the formation of flavour compounds in fermented meat products.

Keywords: Fermented sausage, starter cultures, flavour

* Corresponding author: gulen.yildiz.turp@ege.edu.tr