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AROMA FORMATION BY MOLD STARTER CULTURES IN FERMENTED SAUSAGES

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The researches on the use of molds as starter culture in the fermented sausages have been continuing for more than 50 years. A non-toxinogenic and technologically suitable strain of *Penicillium nalgiovense* for dry fermented sausage was selected and the first commercial mold starter culture was introduced into the market in 1970s. Nowadays, molds such as *Penicillum nalgiovense* and *P. chrysogenum* are available as commercial starter cultures in the market. In the US and Europe, mold starter cultures are usually used in fermented sausages such as French salami, German salami, Hungarian salami and California salami. Molds used as starter cultures prevent the growth of other molds, including mycotoxigenic molds, and they also prevent negative effects of oxygen and light by covering the surface of the product. Molds are effective in formation of flavor through lactate oxidation, proteolysis, degradation of amino acids, and lipolysis. Lipases increase levels of most free fatty acids and, therefore, play a role in formation of the flavour and aroma. Moreover, a relationship between the sensory properties of dry fermented sausages and the proteolytic activity of molds has been established. It has been determined that many aroma compounds such as methyl ketones by β-oxidation activities, 2-butanone by degradation of diacetyl and acetoin, aliphatic eight-carbon compounds, 1-octanol, 3-octanone, 2-methyl-propanol, 2-butanone, 3-methyl-butanal, 3-methyl-butanol and 2-methyl-butanol by amino acid degradation are produced by the activities of molds. In this study, researches on formation of aroma compounds in mold-ripened fermented sausages are reviewed.

Keywords: Mold, fermented sausage, aroma, *Penicillum nalgiovense*, *P. chrysogenum*

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