

Abstract

The aim of the study was to compare the progress of 6-week maturation of raw salami maturing sausages made of the meat of two native breeds of cows: Polish Red and White-backed, spontaneously fermented with the addition of white and black garlic, while maintaining traditional production methods. The advancement of the processes of proteolysis, lipolysis, fat oxidation and aroma formation has been described on the basis of changes in the basic chemical composition, the share of fatty acids, free amino groups, biogenic amines, volatile aromatic compounds and the TBA index. During maturation, the pH, water activity and the color of the stuffing were additionally determined, and the succession of microflora, including acidic bacteria, lactic streptococci, coagulase-negative staphylococci, yeasts and molds was monitored. The ready-to-eat meats were subjected to sensory evaluation. The production of salami was carried out by a regional producer, in Zakład Masarski „Janex”, Polanka near Myślenice.

Polish red and white-backed salami sausages differed in their amino acid composition, the dynamics of proteolysis and amino acid decarboxylation. Polish red meat products were characterized by a higher content of glycine, methionine and isoleucine compared to those made from white-backed meat. Salami sausages made of white-backed meat were characterized by a lower content of saturated and higher content of mono- and polyunsaturated fatty acids compared to products made of Polish red cow's meat. The compounds differentiating salami sausages produced from the meat of both breeds of cows were: benzene acetic aldehyde, 2-decene aldehyde, 1-hydroxy-2-propanone, 2-methylpyridine, ethyl lactate, methylthirane and dimethyl sulfone. The presence of 2-nonenal, 3,5-octadien-2-one, 1-hydroxy-2-propanone, 1-octene-3-one, 2,3-dimethyl-2-cyclopenten-1-one indicated different activity of secondary oxidation of fat products, despite the low values of the TBA index. The presence of acetic, alcoholic and butter fermentation products as well as amino acid catabolism confirmed the high enzymatic activity of bacteria and yeasts.

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