RESEARCHES CONCERNING THE INFLUENCE OF THE VEGETAL PROTEIN SUPPLEMENTS PROPORTION ON THE MICROBIOLOGICAL QUALITY OF SEMI-SMOKE SAUSAGE

Sălăgean D., C. Laslo, D. Țibulea, Maria Virginia Morar

University of Agricultural Sciences and Veterinary Medicine, Faculty of Agriculture, 3-5 Mănăștur Street, 400372 Cluj-Napoca, Romania, dansalagean@personal.ro

Key words: semi-smoked sausage finished product, vegetal protein supplements, usage proportion, manufacture recipe, microbiological quality indicators.

SUMMARY

Microbiological analyses were performed on fifteen samples of semi-smoked sausage finished product manufactured in three technological variants: using the manufacture technology without protein supplements (recipe A); with 3% vegetal protein supplements (recipe B) and 5% vegetal protein supplements (recipe C).

The results of microbiological exam highlighted the following aspects: the analysed samples are in accordance with O.M.S. 975/1998 requirements in the case of *coliform bacteria* /g product (10 maximum), *Escherichia coli* /g product (1 maximum), *Salmonella* /25 g (absent) and *coagulase-positive Staphylococcus* /g (10 maximum); one can observe values over the maximum admitted by the same O.M.S. in the case of *sulphite-reducing Clostridium* (10 maximum) and *Bacillus cereus* (absent); *Sulphite-reducing Clostridium* count was exceeded only in the case of finished products from A, B and C recipes at the third batch from those five manufactured (20% from the analysed samples), with a higher value in the case of recipe C (with 3% textured protein concentrate in comparison to 1.5% used in B recipe), that may be explained by the contamination degree of the textured protein concentrate used at the manufacture of the respective batch (which wasn’t observed at the analyse of the raw material samples) and the higher resistance at the thermal treatment of these pathogen germs, in most cases presented as spores; *Bacillus cereus* exceeded in the case of finished product of the B and C recipes of one manufactured batch (20% from analysed samples), that may be explained by contamination with this germ of the textured protein concentrate (it didn’t observe values exceeding the maximum admitted in the case of samples from A recipe); *Sulphite-reducing Clostridium* may be found again as spores in the finished product, the respective spores being resistant to the thermal treatment carried out to the meat products (72...75 ºC) and influencing the quality of the finished products; Bacillus cereus exceeded in the case of one of the finished products of the B and C recipes of one manufactured batch (20% from analysed samples), that may be explained by contamination with this germ of the textured protein concentrate (it didn’t observe values exceeding the maximum admitted in the case of samples from A recipe); Sulphite-reducing Clostridium may be found again as spores in the finished product, the respective spores being resistant to the thermal treatment carried out to the meat products (72...75 ºC) and influencing the quality of the finished products; The hygienic quality of the finished products may be influenced by the protein supplements used in the manufacture technology of the meat products, in accordance with their microbiological load and proportion in the manufacture recipe, cumulatively with the microbiological load of the raw materials used in manufacture.