Effects of Rosemary Spice (Rosmarinus Officinalis L.) and Nitrite Picking Salt Combination on Keeping and Organoleptic Quality of Beef Sausages

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Abstract

The potential use in foods as antioxidants and antimicrobials coupled by increasing interest in the use of natural preservatives (for safety reasons) motivated the demonstration of the possibility of substituting rosemary spice for nitrite pickling salt in beef sausages. Five types of beef sausage with similar ingredients in type and quality except for the level of rosemary spice (Rosmarinus Officinalis L.) and nitrite pickling salt were prepared conventionally and stored at 50C. The sausages had spice-nitrite pickling salt combinations from sample with no rosemary spice and 8gm nitrite picking salt /Kg beef (standard sausage) to sample with 0.5% rosemary spice (based on sausage mass) and with no nitrite pickling salt. Microbial proliferation was monitored for 9 days and extent of rancidity development for 11 days as measured by absorbance of their light petroleum (40C-60C) extract at 269nm. Twenty panelists appraised the organoleptic quality using a hedonic scale of 7. It was found that rosemary spice can substitute nitrite pickling salt to produce organoleptically acceptable sausages of comparable microbiological quality - with 0.4% rosemary spice and 6mg/Kg nitrite picking salt mixture as the optimum combination in microbial inhibition. However, it was demonstrated that rosemary spice/ nitrite picking salt mixes are not effective (relative to rosemary spice and NPS when separate) in halting production of secondary products of lipid oxidation.