

The Effect of Sea Buckthorn (*Hippophae rhamnoides* L.) Berries on Some Quality Characteristics of Cooked Pork Sausages

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Abstract : The aim of this study was to analyze selected quality characteristics of cooked pork sausages manufactured with the addition of Sea buckthorn (*Hippophae rhamnoides* L.) berries preparations. Stuffings of model sausages consisted of pork, backfat, water and additives such a curing salt and sodium isoascorbate. Functional additives used in production process were two preparations obtained from dried Sea buckthorn berries in form of powder and brew. Powder of dried berries was added in amount of 1 and 3 g, while water infusion as a replacement of 50 and 100% ice water included in meat products formula. Control samples were produced without functional additives. Experimental stuffings were heat treated in water bath and stored for 4 weeks under cooled conditions ($4\pm 1^{\circ}\text{C}$). Physical parameters of colour, texture profile and technological parameters as acidity, weight losses and water activity were estimated. The effect of Sea buckthorn berries preparations on lipid oxidation during storage of final products was determine by TBARS method. Studies have shown that addition of Sea buckthorn preparations to meat-fatty batters significant ($P\leq 0.05$) reduced the pH values of sausages samples after thermal treatment. Moreover, the addition of berries powder caused significant differences ($P\leq 0.05$) in weight losses after cooking process. Analysis of results of texture profile analysis indicated, that utilization of infusion prepared from Sea buckthorn dried berries caused increase of springiness, gumminess and chewiness of final meat products. At the same time, the highest amount of Sea buckthorn berries powder in recipe caused the decrease of all measured texture parameters. Utilization of experimental preparations significantly decreased ($P\leq 0.05$) lightness (L^* parameter of color) of meat products. Simultaneously, introduction of 1 and 3 grams of Sea buckthorn berries powder to meat-fatty batter increased redness (a^* parameter) of samples under investigation. Higher content of substances reacting with thiobarbituric acid was observed in meat products produced without functional additives. It was observed that powder of Sea buckthorn berries added to meat-fatty batters caused higher protection against lipid oxidation in cooked sausages.

Keywords : sea buckthorn, meat products, texture, color parameters, lipid oxidation

Conference Title : ICFSN 2014 : International Conference on Food Science and Nutrition

Conference Location : London, United Kingdom

Conference Dates : June 29-30, 2014