

MULTIFUNCTIONAL ADDITIVES "PRIMA" FOR COOKED SAUSAGES MADE WITH MECHANICALLY DEBONED POULTRY MEAT

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At present mechanically deboned poultry meat is widely used in the meat industry of Russia, but it is characterized by insufficiently expressed flavour, low water binding capacity and fat holding capacity; it decreases the quality of meat products. In this connection the necessity arose to develop new types of multifunctional additives, which would correct these shortcomings and improve organoleptic and physico-chemical indices of cooked sausages made with mechanically deboned poultry meat.

Additives "PRIMA" specially developed for cooked sausages are discussed in this paper.

The investigations on the development of "PRIMA" additives composition were carried out in several stages: selection of flavouring compositions; selection of flavouring carriers; evaluation of organoleptic, physico-chemical, and microbiological characteristics of additives in sausages with additives used.

For composing flavouring compositions the following species were used: essential oil and oleoresin of black pepper, oleoresin of paprika, Cayenne pepper, essential oils of coriander, laurel, garlic, cardamon, clove, nutmeg, ginger, and basil. While composing flavouring compositions, the objective was to preserve specific meat flavour and aroma and add desirable flavour-aromatic profile to newly developed meat products [1].

Dextrose, maltodextrine, modified starches, and salt were applied as carriers. The natural food colour - beet powder obtained by freeze drying of the beet juice - was used for the formation of sausage stable colour.

As a result, four types of additives for cooked sausages with mechanically deboned poultry meat were developed: "PRIMA 1" (with beet note), "PRIMA 2" (with ginger note), "PRIMA 3" (piquant), "PRIMA 4" (spicy).

Results of the microbiological study of additives are summarized in Table 1.

Technological tests of the additives were carried out on a wide range of products (all types of cooked sausages) containing 30% to 92% of mechanically deboned poultry meat from the total product mass.

	PRIMA 1	PRIMA 2	PRIMA 3	PRIMA 4
Count of mesophilic aerobic and facultatively anaerobic microorganisms, CFU in 1 g	6.6×10^3	8.6×10^3	3×10^3	4.2×10^3
Escherichia coli in 1 g	not observed			
Pathogenic microorganisms, including Salmonella in 50 g	not observed			
Sulfite-reducing Clostridia in 1 g	not observed			
Count of mould, CFU in 1 g	8×10^1	3×10^1	0	0

Results of the organoleptic evaluation and the measured values of colour characteristics of cooked sausages containing 45% of the poultry meat are summarized in Table 2. The control sample of the sausage was prepared with mixture of natural dry spices, while the test sample contained the additive "PRIMA 2"

No.	Samples	Organoleptical evaluation, score					Colour coordinates		
		colour	aroma	taste	consistency	general score	L	a	b
1	Control	7.1	7.0	7.2	7.3	7.2	62.09	11.97	11.07
2	Test	7.8	8.0	7.8	7.7	7.9	60.47	13.06	12.56
1	Control	6.4	6.7	7.1	6.9	6.4	68.75	10.37	11.65
2	Test	7.7	7.6	7.4	7.2	7.5	60.54	12.49	12.72

As can be seen from the table, the experimental samples had higher scores according to tasters' opinion concerning, first of all, their taste, aroma and colour. Results of colour values measured by instruments were in compliance with the organoleptic evaluation. The observed trend is valid for other types of cooked sausages. Thus newly developed additives "PRIMA" may be successfully applied for the preparation of cooked sausages with mechanically deboned poultry meat.

Reference

1. Andreenkov V.A., Alekhina L.V., Ivashov V.I. Methods of obtaining new flavourings and flavouring composition for sausages. // Proceedings of the 41st ICOMST., p. 456, USA, San-Antonio.