

# NEW METHOD OF EMULSIFIED MEAT FOODSTUFFS MANUFACTURING

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### Abstract

The water-in-oil emulsions are widely used in the technology of emulsified meat products. Using the protein and fat emulsions in the technology of emulsified meat products gives the possibility to involve beef fat, connective tissue, pork skin, that are not suitable for this purpose in the native form.

The pH level and redox of activated liquids were determined by potentiometric measurement. The sensory methodology was used for the evaluation of the organoleptic characteristics of the meat products (appearance, odour, flavour, texture). Catolyte (CW) had produced by PEM-3 module, the value of catolyte pH is 10.45 - 11.2, Redox = (-300  $\div$  -350) mV. The cavitation disintegration (CD) was carried out by ultrasonic treatment in homogenizer «Hielscher Ultrasound Technology UP».

Emulsions based on activated liquids obtained by cavitational disintegration, has high emulsifying capacity (up to 233 grams of fat per 1 g of protein). In that case sufficiently stable emulsions with a high fat phase (up to 60 - 70%) can be used. The best results for the preparation of high-quality emulsions obtained for CW + CD water and the production of the emulsion by cavitational disintegration. All sausage mincemeat which was produced with activated liquids had better properties than the control sample prepared using water. The optimal ratio of total moisture content (TW%) and water holding capacity (WHC%) was observed for the samples, which were produced with just using of catholyte and CD - catholyte. It was established that concentration of salt in the samples used the cavitation disintegration in their production higher up to 5.7 - 6.3% than in control.

The replacement of 15% raw meat by activated water hydrated protein "Kat-Gel 95" was recommended. The emulsions prepared by cavitation disintegrator more stable compared to a traditional method on homogenizer. Using of activated liquids instead of water allows excluding the water-holding chemical additives, improving the technological characteristics and producing the healthy meat products with high consumer properties.

Key words: Cavitational disintegration, Food emulsion, Meat foodstuffs, Stability, Emulsifying ability.