

HAMBURGER PATTY DEVELOPMENT WITH ALGINATE-PECTIN MEAT EMULSION

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Abstract

Current trends show increasing consumer demand for minced meat semi-finished products. According to this tendency it is necessary to produce high quality products with a prolonged shelf life.

As a result of the recent North Caucasus Federal University (Stavropol, Russian Federation) research, scientists demonstrated the possibility of alginate-pectin mixtures additives. The additives to meat emulsions enable to produce high-quality ground meat convenience food with high emulsions stability under low-temperature treatment.

Currently convenience meat products are one of the top consumer choices both in Russia and in the EU. That's why it was decided to make a cooperative experimental research of scientists from North Caucasus Federal University and Max Rubner-Institut (Kulmbach, Germany,) to produce a new kind of hamburger patty with alginate-pectin meat emulsion. The goal was to achieve a tenderer, more stable and safer product with high organoleptic value.

The article contains results of main measurements which were done after a complex investigation of the developed product using methods of evaluation of rheological and mechanical properties, pH and weight losses, TBARS, Water activity and analysis of chemical content and sensory indexes.

Having analyzed all the measurements data and compared discussed results, it was determined, that experimental hamburger with developed emulsion had the best quality and safety properties.

The authors concluded that development of protein-anionic polysaccharide system in emulsions for semi-finished products like pectin-alginate complex with whey protein concentrate will inhibits lipids oxidation, improves tenderness and permits preservation quality of products

Key words: Meat emulsion, Pectin, Alginate, Phosphates, Whey protein, Patty, Hamburger, Healthy food, Food safety.