

## Is the desinewed meat mechanically separated meat?

Krzysztof Dasiewicz, Mirosław Słowiński, Aneta Cegiełka

Warsaw University of Life Sciences - WULS SGGW, Institute of Food Sciences, Warsaw, Poland

**Introduction:** According to the definition of meat used in the labeling of processed meats, mechanically separated meat (MSM) is not included in the „meat” category. Despite the differences in production technology, chemical composition, and technological suitability, as supported by EFSA’s opinion, no different labeling for low- and high-pressure MSM has been developed at EU level. The lack of such a distinction in the labeling of the two raw materials is questioned by the meat industry. This legal status has been complicated by the judgment of the Court of Justice of the EU, according to which „desinewed meat” should be declared as a MSM in meat products. Legal regulations regarding the use of mechanically separated meat are established in both Europe and the USA. In both continents MSM has to be labelled differently from ground meat.

The aim of the study was to show whether the meat obtained by mechanical separation of non-consumable and/or value-reducing parts from previously deboned elements (so-called „desinewed meat”) differs from the meat obtained from the same elements in a meat grinder.

**Materials and methods:** The research material was meat obtained from chicken and turkey legs. Bones were removed from these elements without disturbing the muscular structure. These elements were subjected to:

- the mechanical separation of the tendons and other non-consumable parts by forcing them through the drum of the SEPAmatic machine with 5 mm diameter holes;
- grinding in a meat grinder with a mesh with a hole diameter of 5 mm.

The experiment was performed three times. The following parameters were determined in the raw materials: the content of calcium (by the method of atomic emission spectrometry with excitation in inductively coupled plasma), water, protein, fat, ash and collagen (by the NIR method). The structure of muscle fibers was assessed by histological method using scanning microscope.

**Results:** The content of water, protein, ash and calcium in both raw materials was not significantly differentiated by the method of obtaining. The meat obtained in the grinder contained more fat and collagen. This was due to the fact that main location of these components in poultry meat is skin, which is waste when raw material is extracted in the SEPAmatic machine, but is part of the raw material obtained in the meat grinder. The chemical composition of the meat obtained in the SEPAmatic device shows a higher nutritional value (more protein, less fat and connective tissue) than the meat obtained in the meat grinder. The calcium content was lower in SEPAmatic meat than in meat from the grinder, and typical of hand-cut meat. Meat obtained in the SEPAmatic machine had less damage to the muscle fibers than in meat obtained in the grinder, which is due to the fact that the forces applied during processing are much.

**Conclusions:** As the chemical composition of the meat obtained in the SEPAmatic machine is nutritionally better than the chemical composition of the meat obtained in the grinder, and the degree of damage to the structure of the muscle fibers is smaller, both types of meat for the purpose of labeling should be treated the same way.

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