

# Biosensors in the meat chain continuum as a tool for animal health, food safety, food quality and food crime control

Nastasijevic I.<sup>1</sup>, Radonic V.<sup>2</sup>, Jurica K.<sup>3</sup>

<sup>1</sup> Institute of Meat Hygiene and Technology, Kacanskog 13, 11000 Belgrade, Serbia

<sup>2</sup> BioSense Institute, Dr Zorana Djindjica 1, 21000 Novi Sad, Serbia

<sup>3</sup> Ministry of internal affairs, Special Security Operations Directorate, Ulica grada Vukovara 33, Zagreb, Croatia

## AIM

Meat chain is composed of several modules (farm, abattoir, processing, distribution, retail). Preconditions for meat safety and quality are healthy and well-kept animals, slaughter and dressing practices, processing hygiene, cold chain and hygienic handling in distribution and retail. Consumer awareness increased regarding animal health/welfare, meat safety/quality and food labelling. Pathogens of public health importance (zoonotic foodborne bacteria) may enter the meat chain in multiple points due to unauthorized food manipulation (unintentional – poor biosecurity and hygiene, and intentional – food fraud and food terrorism). International trade associated with sourcing of raw materials from different regions and fraudulent practices in manufacturing of added-value meat products (meat species different from the labelling statement) require low-cost solutions for point-of-care detection of pathogens responsible for the majority of food borne diseases (*L. monocytogenes*, *Salmonella*, *Campylobacter*), including identification of meat species. Biosensors that require little sample preparation and can provide rapid detection of major pathogens and meat species represent a tool for effective food safety/food defence management.

**Keywords:** meat chain, meat safety, meat quality, food fraud, detection, biosensors

**Contact person:** Ivan Nastasijević ([ivan.nastasijevic@inmes.rs](mailto:ivan.nastasijevic@inmes.rs))

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