



Need for Development of Next Generation Test for Livestock Products

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Human beings are omnivorous animal and a majority of foodstuffs are dependent on livestock products. The meat eaters are not less than in numbers than vegans. So, quality of livestock products is an ongoing challenge before mankind. This becomes more critical when meat frauds are getting reported day by day [1,2]. In India meat fraud is often reported and appropriate expert committees are formed to check meat contamination [3]. Still meat fraud is continuing. In academia it seems to be a golden mine of study of such activity as we do not see an academic review of the matter published recently in popular academic bulletin.

Along with meat fraud, food poisoning from livestock products is also a global challenge. In burgers, sandwiches etc. the meat part is often undercooked. This may cause food poisoning [4]. *E. coli* and *Salmonella* sp. are sometimes identified in cooked meat [5]. This phenomenon is capable of causation of cooked meat induced food poisoning.

In academic interest occasionally some molecular tests are published to identify meat species. Nevertheless, as on date no comprehensive test is available which can address meat fraud (adulteration) and meat quality simultaneously in terms of presence of food poisoning pathogen from meat.

From raw and cooked meat species identification is done by multiplex PCR approach [6]. From raw and cooked meat pathogen identification is done by multiplex PCR approach [7]. Recently, digital droplet PCR is used for sensitive detection of the above variables separately [8-11]. Nevertheless, these tests are high end, sensitive but not yet done together. So, from livestock products,

meat source and pathogen detection for understanding chance of occurrence of food poisoning had not yet been done simultaneously.

To make such tests popular we believe that development of concurrent detection tests should be welcome otherwise the multiplex PCR based tests will be compartmentalized in animal biotechnology sector. In the field of diagnostics, multiplex PCR based tests are used for detection of several causative agents simultaneously [12]. However, in the field of livestock biotechnology detection of meat origin and contamination of pathogen simultaneously is not yet done by multiplex PCR approach in a single go. So, the potential of this approach is not yet explored to serve our need. It is high time to explore this area and widen the horizon of multiplex PCR approach in livestock biotechnology. We believe that development of such simultaneous screening test will popularize the multiplex PCR approach in livestock biotechnology resulting in better quality control of livestock products.

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