



REVIEW ARTICLE

INCIDENCES ON DETECTION OF *SALMONELLA* SPP. AS CONTAMINANT IN POULTRY MEAT: A REVIEW

Subha Ganguly*

AICRP on Post Harvest Technology (ICAR), Department of Fish Processing Technology, Faculty of Fishery Sciences, West Bengal University of Animal and Fishery Sciences, Chakgaria, Kolkata-700 094, WB, India

*E-mail: ganguly38@gmail.com

Tel.: +91 9231812539.

Received: August 20, 2014 / Revised: August 29, 2014 / Accepted: August 30, 2014

The present review documents the incidences and recovery of *Salmonella* spp. isolated, identified and characterized from carcass meat and egg wash of poultry. *Salmonella* spp. were identified as the predominant pathogens in the chicken samples in the various relevant and documented investigations carried out by various researchers from time to time in India and abroad. The virulent genes present in the pathogenic bacteria are the mainly responsible factors eliciting the enteric infections in hosts after consumption of the contaminated/infected meat.

Key words: Chicken, Meat, *Salmonella* spp, Poultry.

INTRODUCTION

Poultry rearing is a booming industry in India. Broilers and layers are raised by the farmers to get rapid returns due to their fast growth on account of efficient utilization of feed during early growth period. Genetically improved broilers are however very much prone to diseases. Disease prevention is backbone of poultry industry. To make the poultry industry economically viable, sound knowledge of disease management, their detection, quick and accurate diagnosis, disease monitoring and mass immunization are the general approaches which may be employed for prevention of diseases.

The total poultry meat production in India has risen to a whopping 17,15,000 tonnes in 2005 from 14,40,000 tonnes in 2003. Likewise, egg production has also increased from 37 billion in 2003 to 41 billion in 2005. The per capita availability of meat has also increased from 1200 g in 2003 to 1350 g in 2006 (Sherikar and Tarwate, 1998). The average annual growth rate of the total meat production is 3.60%. In poultry production, dietary prebiotics are mainly used in order to enhance live body weight gain, dressing percentage, weight of vital organs and muscles and mean villus lengths in digestive tract of

poultry birds (Ganguly, 2013a). In addition, β -glucan from an edible mushroom (*Pleurotus florida*) has pharmaceutical and physiological effect as an immunomodulator on the innate immune responses in broiler (Ganguly, 2013b). Special attention in poultry meat production is given because live birds are host to large number of different microorganisms residing in their skin, feathers and in the alimentary tract. The practice of keeping live caged birds at the same premises where slaughter of birds are also goes on leads to fecal contamination of raw meat. Microorganisms from the environment, equipments and from the operator's hands can also contaminate meat. Contamination could also occur due to infected sick birds which have been sold off. Epidemiological reports suggest that poultry meat is still the primary cause of human food poisoning (Selvaraj *et al* 2010). Microflora present in chicken meat is heterogeneous and originates from slaughtering premises, operator's hands, equipments, outfits, contaminated water and surrounding air. Pathogenic organisms are associated with pyogenic infection, necrotic dermatitis and bumble foot in domestic poultry along with ulcerative keratitis, tonsillitis, endocarditis and