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''DIAGNOSIS OF SALMONELLA ENTERITIDIS IN TISSUES AND INTESTINAL CONTENT OF EXPERIMENTALLY INFECTED CHICKENS IN CHILE BY POLYMERASE CHAIN REACTION''

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Abstract

Salmonella Enteritis's is the most involved Salmonella serotype in Food-borne Illness in our country, being poultry products the main source in human infection. For this reason, its diagnostic and control becomes more and more important to avoid outbreaks that jeopardize public health. Bacteriological culture is the standard method used for the detection of S.E in animal tissues samples and takes at least 4 to 7 days to deliver results. To reduce diagnostic times, without reduce sensitivity and specificity, new and alternative methodologies have been developed and Polymerase Chain Reaction (PCR) has taken a privileged place obtaining an important reduction of detection times and processing a great number of samples simultaneously.

The objective of this work was to implement standard PCR test for the detection of S.E by using specific primers to detect inv*A* gene. For this purpose, a first stage was performed in which the PCR technique was implemented using enrichment broth inoculated whit bacteria, followed by the establishment of the minimal detectable bacterial concentration that the technique was able to detect, obtaining a minimum of 10^1 CFU/ml. After, the implemented test was used to detect S.E in 53 samples of tissues and intestinal content of experimentally infected chickens that were positive to bacteriological culture and 126 negatives samples. In the first case all the samples are positive while in the second experience from the 126 negative samples, only 6 obtained amplification bands (4,8%), being 3 of them a pool of organs, and 3 intestine and intestinal content.

Thus, it can be concluded that the implementation of standard PCR test for the detection of S.E in tissues and intestinal content samples from chickens was successful, with a high bacterial detection capacity and an execution time of 3 days, maximum (being 2

of them incubation un enrichment broth). This diagnostic test should be used as a complement for the traditional technique presently used.

KEYWORDS

PCR, Inva, Diagnostic Method, Salmonella.

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