

Comparison of Six Culture Methods for *Salmonella* Isolation from Poultry Fecal Samples

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Abstract

Background and Objective: Salmonellosis is one of the most important food-borne bacterial zoonotic diseases worldwide, and poultry and its products are the major sources for *salmonella* transmission to human. Isolation of *Salmonella enterica* from poultry needs bacteriologic enrichment and selected cultures of fecal samples. In this study, different culture methods for the isolation of *salmonella* from fecal samples were compared.

Material and Methods: Forty- five positive samples from infected farms and 45 negative samples from normal farms were processed using enrichment media including tetrathionate broth, selenite cistine and Rappaport-Vassiliadis. Then the samples were incubated in selective cultures, and after 24 h, their results were compared with standard method.

Results: Specificity of all methods for *salmonella* isolation was 100%, and *salmonella* was not isolated from the negative samples. The highest susceptibility was related to the method in which the sample first in Selenite cistine and later in Rappaport-Vassiliadis was enriched (100%). Enrichment in Rappaport-Vassiliadis could isolate 41 *salmonella* from 45 positive samples (91%) while the result of enrichment in tetrathionate was 6 isolates (13.3%).

Conclusion: This study shows that enrichment in selenite cistine and then in Rappaport-Vassiliadis is currently the best method for isolating salmonella from fecal samples of poultry.

Key words: *Salmonella*; Bacteriologic Culture; Diagnosis; Isolation; Enrichment; Poultry