

**STUDIES ON EPIDEMIOLOGICAL MARKERS OF AVIAN
ESCHERICHIA COLI WITH SPECIAL REFERENCE TO ITS
SOURCE OF INFECTION AND CONTROL MEASURES**



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in

VETERINARY MICROBIOLOGY

to the

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Madras**

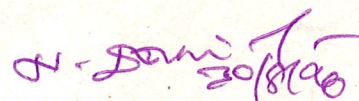
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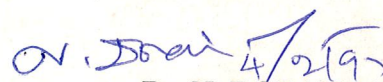
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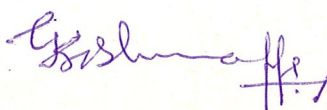

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ABSTRACT

STUDIES ON EPIDEMIOLOGICAL MARKERS OF AVIAN *ESCHERICHIA COLI* WITH SPECIAL REFERENCE TO ITS SOURCE OF INFECTION AND CONTROL MEASURES

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Two hundred and fifteen isolates of *E.coli* were obtained from different sources of avian origin and their pathogenicity was confirmed by chick pathogenicity test and congo red binding ability. The congo red binding ability highly correlates positively with chick pathogenicity. Serotyping, bio-typing, antibiogram typing and resistogram typing were used as epidemiological markers to pin point the sources of infection.

E.coli strains with typical epidemiological markers were isolated from various sources on a breeding farm and commercial chicks and the source of infection was traced to cloacal strains of *E.coli* of breeding hens and commercial hens, workers, washing solution, chick box surfaces, feed, litter, water source, and environment respectively.

respectively. And in commercial farms also the epidemiological markers gave validity in tracing the sources of infection corresponding to the cloacal strains of commercial hens, feed, water, environment and litter.

Pathogenic *E.coli* occurred concomitantly with NDV, IBV, IBDV, *P.multocida* *Eimeria necatrix* and *Ascaridia galli*.

Control of *E.coli* infection at farm level was attempted by sanitation of drinking water with 16 ppm and 20ppm of chlorine ; 0.5 % and 1% levels of iodine and 0.1 and 0.2% of quaternary ammonium compounds (QACs) in healthy and affected farms. The critical level of residual chlorine was 2 ppm for total counts and 0.2 ppm for coliforms. The efficacy of QACs was significant ($P < 0.01$) when compared to chlorine and iodine.

It was observed that there was no significant difference in the efficacy of phenolic compounds and aldehyde + QACs combination in reducing the environmental load under field conditions. They were not able to maintain their efficacy, because of air current .