INVESTIGATION ON THE ABILITY TO LYSE *ESCHERICHIA COLI* OF BACTERIOPHAGES ISOLATED FROM COMMERCIAL CHICKEN FARMS

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**Summary**

The present study was conducted to evaluate lytic activity on pathogenic *Escherichia coli* of bacteriophages isolated from industrial chicken farms in Tra Vinh and Vinh Long provinces. In total, 21 and 5 bacteriophages were identified to lyse 32 strains *E. coli* originally from Tra Vinh and Vinh Long, respectively. Polymerase chain reaction (PCR) was used to determine the presence of three toxin genes namely *FimH, Stx1* and *Stx2* of *E. coli* and it was shown that 100% *E. coli* carrying *FimH* gene and none of the *E. coli* possessed the *Stx1* gene. For samples collected in Tra Vinh and Vinh Long provinces, the presence of *Stx2* gene was found in 8 and 13 *E. coli* strains, respectively. In addition, to chicken farms of Tra Vinh, EN9 *E. coli* strain was infected with the highest number of bacteriophages (12 strains) whereas to those from Vinh Long, ED14, ED15 and EN17 *E. coli* were highly infected with 5 bacteriophage strains. Finally, on the evaluation of lytic efficacy of bacteriophages at 24, 48 and 72 hours, it was indicated that PN10 phage were of higher lytic activity on EN9 *E. coli* and PD7, PD8 and PD9 phages were more effective on ED14 *E. coli*. These results are under applying and evaluation for *E. coli* prevention and treatment in chickens.

**Keywords:** Bacteriophages, chickens, *E. coli*, prevention, treatment.