

Thesis Title                      Decreasing of Fecal Coliform Bacteria and  
Coliphage in Oysters after Frying with Egg,  
Salad Mixing and Chilling

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#### ABSTRACT

The study of the decreasing of fecal coliform bacteria and coliphage in oysters after frying with egg, salad mixing and chilling. Oysters were determined fecal coliform by Multiple Tube Fermentation Technique and coliphage by modified American Public Health Association (APHA) 919 C Method. The results showed that the average of MPN of fecal coliform bacteria per 100 g of oyster frying with egg and salad mixing were  $2.0 \times 10^2$ , and  $2.0 \times 10^4$ , respectively. When compared with fresh oysters which had the average of MPN of fecal coliform bacteria  $2.9 \times 10^4$  per 100 g of oysters, it was found that the average of fecal coliform bacteria in oyster frying with egg and salad mixing decreased 99.15% and 34.87%, respectively. The average of fecal coliform bacteria in oyster after frying with egg were significantly decreased more than those in salad mixing ( $p < 0.01$ ). The average of fecal coliform bacteria in fresh oyster was significantly higher than those in oyster after frying

with egg ( $p < 0.01$ ). But when compared fecal coliform bacteria in fresh oyster with in salad mixing oyster was not significantly different ( $p < 0.01$ ).

The average of MPN of fecal coliform bacteria in chilling oysters kept in refrigerator for 1, 3, 5 and 7 days were  $7.6 \times 10^4$ ,  $5.8 \times 10^4$ ,  $4.0 \times 10^4$  and  $2.7 \times 10^4$  per 100 g of oysters, respectively. When compared with fresh oyster which had the average of MPN of fecal coliform bacteria  $8.1 \times 10^4$ , it was found that the average of fecal coliform bacteria in chilled oysters for 1, 3, 5 and 7 days in refrigerator decreased 5.46%, 28.62%, 50.85% and 66.79%, respectively. When compared the decreasing of fecal coliform bacteria in those days were significantly different ( $p < 0.01$ ).

The average of coliphage in oyster after frying with egg and salad mixing were  $3.6 \times 10^2$  and  $1.77 \times 10^3$  PFU/100 g of oysters, respectively. When compared with fresh oyster which had the average of coliphage  $1.98 \times 10^3$  PFU/100 g, it was found that the average of coliphage in oyster after frying with egg and salad mixing decreased 76.47% and 15.29%, respectively. The average of coliphage in oyster after frying with egg were significantly decreased more than those in salad mixing ( $p < 0.01$ ). The average of coliphage in fresh oyster was significantly higher than in oyster after frying with egg ( $p < 0.01$ ). But the average of coliphage in fresh oyster and in salad mixing oyster showed no significant difference ( $p > 0.01$ ).

Coliphage in oysters kept in refrigerator for 1, 3, 5 and 7 days were  $4.23 \times 10^3$ ,  $3.85 \times 10^3$ ,  $3.17 \times 10^3$  and  $1.92 \times 10^3$  PFU/100 g of oysters, respectively. When compared with fresh oyster which had the average of coliphage  $4.71 \times 10^3$  PFU/100 g, it was found that the average of coliphage in chilled oysters for 1, 3, 5 and 7 days in refrigerator decreased 4.18%, 13.06%, 28.47% and 57.72%, respectively. The decreasing of coliphage in those days were significantly different ( $p < 0.01$ ).