Inspection of Sanitary Bacteria from Bottom Soil, Water and Black Tiger Shrimp in Earthen Pond, Trat Province

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Abstract

The sanitary bacteria from bottom soil, water and black tiger shrimps \textit{Penaeus monodon} Fabricius in shrimp ponds, Trat province were determined from October 2003 to September 2005 on 9 shrimp farms 2 crops: prepared-pond soil and post harvested soil samples; pre stocking – 4-month water samples; 3 – 4 month shrimp. All samples were inspected for total coliforms (TC), fecal coliforms (FC), fecal streptococci (FS) and \textit{Salmonella}. Most of samples were found that TC, FC and FS from soil and shrimp were less than 3 MPN/g. They were: 76.7, 80.0 and 70.0 % of total prepared-pond soil samples; 40.5, 59.5 and 52.4 % of total post harvested soil samples; 41.2, 79.4 and 79.4 % of total shrimp samples. TC, FC and FS in water samples 0 – 100 MPN/100 ml were 54.5, 72.2 and 80.0 % of total water samples.

Fecal streptococci group was examined: \textit{Enterococcus faecium}, \textit{E. faecalis} and \textit{E. casseliflavus} from bottom soil; \textit{E. faecium}, \textit{E. faecalis}, \textit{E. casseliflavus}, \textit{E. gallinarum} and \textit{E. durans} from pond-water; \textit{E. faecalis} and \textit{E. casseliflavus} from shrimp.

\textit{Salmonella} was examined: 2.78\% of soil sample; \textit{Salmonella} Javiana and \textit{Salmonella} Brunei; 3.14 \% of pond-water sample; \textit{Salmonella} Corvallis, \textit{Salmonella} Javiana, \textit{Salmonella} Thompson, \textit{Salmonella} Brunei and \textit{Salmonella} enterica subsp. Enterica ser.4,5,12:b. , but \textit{Salmonella} was not detected from shrimp samples.

Key words: Sanitary bacteria, soil, water, black tiger shrimp, shrimp pond

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