

3836528 SCEB/M : MAJOR: ENVIRONMENTAL BIOLOGY;
M. Sc. (ENVIRONMENTAL BIOLOGY)

KEY WORDS : INTENSIVE SHRIMP FARMS/ ORGANIC WASTES/
FLOW INJECTION ANALYSIS

MANANYA NIKROTH: ISOLATION OF BACTERIA CAPABLE OF
REMOVING ORGANIC WASTES IN INTENSIVE SHRIMP FARMS. THESIS

ADVISORS: PORNSAWAN VISOOTTIVISETH, Ph.D. DUANGJAI
NACAPRICHA, Ph.D. SUCHAT INGTHAMMACHITTRA, D.Tech.Sc. 120p. ISBN
974-662-689-2

The quality of water in intensive shrimp ponds is of major concern. The parameters of water quality investigated in this study are ammonia (NH_3), nitrite (NO_2^-) and nitrate (NO_3^-). The flow injection (FI) systems for determination of these parameters were modified from the systems proposed for water analysis. The percentage recovery of the modified FI analysis (FIA) was 98.94%.

Four strains of bacteria capable of reducing ammonia content in the shrimp pond were isolated from 20 soil and 20 water samples collected from the shrimp ponds in Rayong province and Prachaub Kirikhan province. These bacteria were tested for their capabilities compared to the commercialized strain. It was found that the commercialized bacteria showed the best capability in reducing ammonia content on the first day. However, the isolated bacteria strain III showed the highest result of oxidizing ammonia (13.1%) on the second day.