

QUALITY ASSESSMENT OF FISH (*Tilapia niloticus*) AND PRAWN (*Penaeus monodon*) PRESERVED AT THREE DIFFERENT TEMPERATURES

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The Present study was conducted at the Zoology Laboratory during the period of September to November 2000, to evaluate the effect of time and temperature on the shelf life of fish (*Tilapia sp*) and prawn (*Penaeus monodon*). Changes in the quality of the fish and prawn were determined by microbiological and biochemical analysis.

Special emphasis was given to determine the maximum period to which both fish and prawn could be kept under refrigerated conditions (0°C and 4°C) and at room temperature (28°C) before losing those characteristics typically associated with premium quality.

Statistical analysis for microbiological studies indicated that the bacterial load increased significantly with time ($P < 0.005$). The initial load of bacterial population increases by three times after 72hrs of storage at room temperature. Studies showed that storage temperature affected the microbial population. Reduction in storage temperature close to freezing point has a potential effect on lowering the microbial population in fish and prawn.

Gutting before refrigeration increases the spoilage of fish and prawn. There was a significant difference ($P < 0.05$) in the spoilage pattern of gutted sample and gutless sample of fish and prawn. It was observed that the

spoilage rate was more rapid in gutted sample than gutless sample.

Total protein content of fish and prawn was measured by Kjeldhal method. The change in protein content of fish and prawn with time was measured at different storage temperatures. There was a significant variation of protein content observed ($P < 0.001$) with the time of storage. Protein degradation was very fast at room temperature due to the combined activities of enzymes that are present in flesh. The protein degradation rate was more rapid at 4°C than 0°C . Of the total protein content 15% of the protein degraded after 32 days of storage at 0°C . Overall quality of both fish and prawn held at 0°C and 4°C maintained premium grade for 30 days.