CONCLUSION
7. CONCLUSION

Any aquatic animal, that includes common carp, immediately after catch undergoes quick spoilage. At ambient temperature the spoilage is rapid. In the present investigation it was recorded that the unprocessed raw whole fish can be kept for a maximum period of six hours at room temperature (28°C) and its shelf life can be extended up to three days at refrigeration temperature (4°C). However, the fillets can be stored at room temperature for eight hours and this can be kept up well for eight days under refrigeration temperature. Treating fillets either with sodium acetate or potassium sorbate or the combination of these two extended the shelf life period to twelve to sixteen days under refrigerated conditions.

The present study clearly indicated that the total heterotrophic bacterial count was positively correlated with the spoilage indices. Similarly the proteolytic, lipolytic and amylolytic bacterial population was also positively correlated with spoilage indices with the simultaneous reduction in protein, lipid and carbohydrate. Increase in bacterial count with the reduction in the major substrates caused rapid deterioration of carps.
Normally potassium sorbate and sodium acetate have bactericidal effect on many aerobic bacteria. Hence, growth of spoilage bacteria was inhibited by sodium acetate, potassium sorbate and the combination of sodium acetate and potassium sorbate on carp fillets. Among the preservatives tested, sodium chloride played no role in extending the shelf life of stored fillets. Maximum efficiency in improving the shelf life of fillets was achieved through potassium sorbate dips. The shelf life of fillets treated with potassium sorbate or sodium acetate was increased primarily due to diminished bacterial load and proliferation. Hence, dipping in 2% (w/v) solution of potassium sorbate can be recommended on priority basis to extend the shelf life of fillets under refrigeration. In circumstances where this chemical is not available, sodium acetate can be recommended to prolong the shelf life of carp fillet at refrigerated conditions.