

Effect of salting on fish meat texture

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Summary

Salting is known as one of typical storing methods of fish meat in Japan. However, it is often ignored that salting gives favorable flavor and texture to fish meat during storage. In the present study, we examined the effect of salting on the change of meat texture of Pacific mackerel.

Pacific mackerel muscle was cut into small pieces(1cmx1cmx1cm), salted by a dry salting method or a brine salting method (in 15 % brine) at 4°C for 24h, and dried in air at 4°C for 72h. The final salt content (after 96h) was higher in the meat salted by the dry salting method, while that after salting (after 24h) was almost same. Both meats was evaluated as "stiffened state" by a creep test.

Light microscopic observation revealed that the disintegration of the connective tissue between muscle fibers and the conformational change of muscle fibers. Transmission electron microscopic observation demonstrated that the denaturation of myofibrillar proteins occurred in muscle fibers. These morphological changes were probably due to the salting-out and denaturing effects by sodium chloride during salting process. Whereas no crosslinking of myosin heavy chains was not recognized, some changes were observed for sarcoplasmic proteins by SDS-PAGE analysis.