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Effect of Dehydration Process Using Salt on Fish Meat Quality

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Summary

“Shitate” is a new technique for dehydration of fish meat using salt developed by the master of Sas-ue-Maeda fish store. In this study, the effect of “Shitate” for taste and freshness of fish meat was investigated.

Kinme-dai (fresh fish, Beryx splendens), Kuro-guchi (living fish, Atrobucca nibe) and Isaki (living fish, Parapristipoma trilineatum) were used for each experiment. Kuro-guchi and Isaki were killed by cutting head and caudal peduncle, and then by stabbing the spinal cord. A pair of fillets with skin were cut out from each fish. One side of fillet was processed as “Shitate” (Shitate), and the other as non-processed control (control). During incubation of these fillets in refrigerator, fish meats were excised at 1hr, 6hr, 1day to 6 or 7days. Then the contents of ATP-related compounds in fish meat were determined using HPLC, and K value was calculated.

In Kinme-dai, inosinic acid (IMP) contents of both Shitate and control were highest at the start of ex-periment, and then gradually decreased. K values of control were higher than that of Shitate during incu-bation. IMP content of Shitate in Kuro-guchi was rapidly increased in early period of incubation (1hr, 6hr), these contents were higher than that of control. K values of control were higher than that of Shitate during incubation. After 7days incubation, K values of Shitate and control were 21% and 28%, respectively. A result of IMP contents in Isaki was similarly to in Kuro-guchi, showing rapid increase in Shitate at early period of incubation (1hr, 6hr). K values of Shitate and control were similar during experiment.

In brief, IMP contents as Umami were rapidly increased using “Shitate” against instant killing fish. And K values in Shitate tend to be lower than that of control, showing the possibility to keep the freshness of fish meat using “Shitate”.