

Addition of NaCl may suppress the formation of lipid peroxidation derived toxic aldehydes, 4-hydroxyalkenals during manufacturing surimi of fish, beef and pork

Tadashi Sakai and Satoshi Kawahara  
Faculty of Agriculture, Miyazaki University

In order to elucidate whether addition of NaCl may suppress the formation of 4-hydroxyalkenals during manufacturing surimi, we investigated the changes on 4-hydroxyhexenal (HHE) or 4-hydroxynonenal (HNE) contents in fish meats or pork of beef containing NaCl, respectively.

The HHE contents of boiled kamaboko, baked chikuwa, Satuma-age, club taste kamaboko, Obi-ten and Obi-ten contained shrimp were analyzed. The highest HHE contents were observed in boiled kamaboko. HHE was not detected in Obi-ten and Obi-ten contained shrimp. Satsuma-age samples containing NaCl and those not containing NaCl were made from sardine, stored at 4 °C for 3 days and changes of HHE contents were analyzed. HHE contents in satuma-age samples containing NaCl were significantly higher than those not containing NaCl. It is uncertain why addition of NaCl may suppress HHE formation in yellowtail and red sea bream meats or not stored at 0 °C.

NaCl was added to boiled pork, stored at 4 °C and changes of HNE contents were analyzed. During storage periods, HNE contents in boiled pork containing NaCl were significantly higher than those not containing NaCl. NaCl was also added to boiled beef, stored at 4 °C and changes of HNE contents were analyzed. After 3 days of storage, HNE contents containing NaCl were significantly higher than those not containing NaCl.