

Ripening of salted sea urchin gonads manufactured from raw gonads preserved under different conditions.

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Summary

The salted sea urchin gonads (a traditional Japanese seafood called "uni-shiokara") are made by the addition of sodium chloride and ethyl alcohol to the gonads. The salted gonads require a period of ripening until it becomes palatable taste. Sea urchin, *Hemicentrotus pulcherrimus* is collected only for periods about 2 months in summer. The salted gonads made from the gonads preserved in freeze at -20°C are not so good products with respect to taste and texture. In the present study, the preservation method that did not impair the quality of raw gonads was investigated. The quality and changes in chemical compositions and firmness of salted gonads made from the preserved gonads were also investigated during ripening. When the raw gonads were preserved with 2% ethyl alcohol at -3°C , the viable cell count in gonads decreased throughout 150 days of the preservation. The salted gonads (7% sodium chloride, 9% ethyl alcohol) were manufactured from the gonads preserved at -3°C for 30–150 days (-3°C -preserved and salted gonads) and at -20°C for 90 days (-20°C -preserved and salted gonads), and were ripened at room temperature for 0–90 days. The firmness of the -3°C -preserved and salted gonads decreased with ripening time and corresponded to smoothness by sensory test. On the other hand, the -20°C -preserved and salted gonads were firmer compared with the -3°C -preserved and salted gonads and were evaluated as "rough" sensuously. In the extracts of the -3°C -preserved and salted gonads, the total and reducing sugars and VBN increased during ripening of 90 days. While, in the extracts of the -20°C preserved and salted gonads, the sugar components and VBN contents were less than those of the -3°C -preserved and salted gonads during ripening.

The salted gonads made from the gonads preserved with 2% ethyl alcohol at -3°C for 30–90 days were palatable and good products as to texture and taste. It was recognized that the -3°C -preservation in the presence of 2% ethyl alcohol was great practical for raw sea urchin gonads.