

EFFECTS OF STORAGE CONDITION ON LIPID DEGRADATION IN CUT-OFFS AND LIPIDS FROM COD (*GADUS MORHUA*)

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Changes during frozen storage of cod liver and minced cut-offs from saithe and cod were monitored. Experimental factors were storage temperature (-18°C / -24°C), storage time (2 / 4 months) and packaging methods (vacuum packing / regular plastic bags and cardboard boxes). Additionally, seasonal effects on lipid degradation in liver as well as variation between different layers (surface / middle parts of whole liver) were evaluated

Higher contents of free fatty acids in liver were observed after storage at -18°C than -24°C. Analysis showed that oxidation occurred at faster rate in the surface layers of whole liver than in the middle part. The effects of storage temperature and time on water holding capacity in cut-offs were significant. It decreased with time, at higher rate at -18°C than -24°C. The results indicated that lipid degradation occurred in shorter time in saithe than in cod and that it could be decreased by vacuum packing the cut-offs.

Based on these results it would be recommended to store by-products at -24°C rather than -18°C, to minimize negative changes in cut-offs and liver. The storage time before further processing, should also be as short as possible and packing methods chosen, that limit access of oxygen used.

Keywords: Liver, cut-offs, peroxide value, free fatty acids, frozen storage

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