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**Water dynamics in cod and salmon studied by low-field  $^1\text{H}$  NMR  $T_2$  relaxation**

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Low-field  $^1\text{H}$  NMR  $T_2$  relaxation time measurements were performed to investigate the water mobility changes during brine salting of Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) in diluted (15% NaCl) and saturated (25% NaCl) brines. Two main water pools were observed in unsalted fish,  $T_{21}$ , with relaxation times in the range of 20-100 ms, and  $T_{22}$ , relaxation times in the range of 100-300 ms. These components are thought to reflect more than 90% of the total water content in muscle tissue. Both salting time and brine concentration were found to have a pronounced effect on the  $T_2$  distributions. Multivariate analyses (PCA) were performed on  $T_2$  relaxation data, and differences in proton ( $T_2$ ) relaxation values along the salting period were found. A tendency towards longer  $T_{21}$  relaxation times was observed for both salmon and cod salted in diluted brines, which corresponds to an increased water mobility. In general, an opposite shift in water mobility was observed in cod and salmon salted in saturated brines.  $T_2$  relaxation time measurements were correlated to physico-chemical analyses. Good linear correlations were found with water holding capacity, salt content in the liquid phase and water activity. These findings indicate that low-field NMR can contribute to further understanding of the water dynamics in fish tissue occurring during processing.